S. HRG. 100-609

WASTE ISOLATION PILOT PLANT LAND WITHDRAWAL ACT OF 1987

HEARING

BEFORE THE

SUBCOMMITTEE ON
PUBLIC LANDS, NATIONAL PARKS AND FORESTS

OF THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE

ONE HUNDREDTH CONGRESS

FIRST SESSION

ON

S. 1272

TO WITHDRAW CERTAIN PUBLIC LANDS IN EDDY COUNTY, NEW MEXICO

CARLSBAD, NM, OCTOBER 12, 1987

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WASTE ISOLATION PILOT PLANT LAND WITHDRAWAL ACT OF 1987

MONDAY, OCTOBER 12, 1987

U.S. SENATE,
SUBCOMMITTEE ON PUBLIC LANDS,
NATIONAL PARKS AND FORESTS,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Carlsbad, NM

The subcommittee met, pursuant to notice, at 9 a.m. at the Carlsbad Civic Center, 4012 National Parks Highway, Carlsbad, New Mexico, Hon. Jeff Bingaman, presiding.

OPENING STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR FROM NEW MEXICO

Senator BINGAMAN. Why don't we start the hearing. We have got a lot of witnesses, and I think the best course is to get started on time and try to get through this as best we can.

Let me make a short statement, and then I will defer to my colleagues here to do the same, and then we will start with the first panel.

This is a hearing of the Subcommittee on Public Lands, National Parks and Forests of the Senate Energy and Natural Resources Committee.

The purpose of the hearing is to receive testimony on S. 1272, which is the Senate version of the legislation that has been developed to withdraw the land for the waste site.

I introduced this measure on May 19, along with Senator Domenici, and of course, similar legislation was introduced by Congressman Skeen and Congressman Lujan in the House of Representatives about the same time, maybe the exact same date.

Before proceeding to our witnesses, I want to just cover a few administrative matters and make a very general statement.

First, we need to thank the City of Carlsbad and Mayor Forrest for providing the use of this Civic Center, and particularly Don Patterson and Max Cordova, who have done a lot of work in preparation for this meeting, particularly the work that had to be done because of the use of the facility for the alfalfa festival yesterday.

I understand that there were a lot of volunteers who put in a lot of hours just last night and this morning to accommodate the hearing. We appreciate that.

We have 26 witnesses who will present testimony during this hearing, and we tried to ensure, in our choice of witnesses, that all points of view would have a chance to be expressed, in order that

we have the opportunity to hear all the testimony and allow members of the delegation to ask questions.

I need to request, and I may request it several times during the day so that people will remember this, but we need to request witnesses to limit their remarks to three to five minutes each, and to submit the complete text of their remarks for the official hearing record.

We have grouped the witnesses in panels in order to expedite the hearing, and if witnesses have copies of their written statements, I would appreciate it if they would hold onto those until they are called to testify.

At that time, the staff will collect those statements from you.

The issues that we consider today are important to the local residents, of course, in Eddy and Lea Counties. They are also important to many in New Mexico.

My staff reports that we have received calls from citizens throughout the state who wanted an opportunity to testify and express their views.

Unfortunately, it is not possible to accommodate at today's hearing everybody who wanted to testify.

We want to make every effort to allow concerned citizens the opportunity to comment, and if anyone would like to present their views to the committee, you can submit statements or other documents to my office here in New Mexico or in Washington, or you can leave them with us today and we will make sure that they are a part of the official record.

The legislation that we consider today would provide for permanent withdrawal of lands in Eddy County for use by the Department of Energy to operate the Waste Isolation Pilot Plant.

The legislation includes important health and safety provisions, which the State of New Mexico and many of us have fought for.

The bill places into statute the important mission limitations on the amount and type of wastes and activities that can be carried out at WIPP.

The legislation requires compliance with EPA standards for the management and disposal of spent nuclear fuel, high-level and transuranic wastes.

It also requires the use of both engineered and natural barriers to isolate the radioactive waste after disposal in compliance with EPA standards.

WIPP was authorized under Section 213 of the Nuclear Energy Authorization Act of 1980 as a defense activity of the Department of Energy for the purpose of providing a research and development facility to demonstrate the safe disposal of radioactive waste resulting from defense activities.

The legislation reasserts that the primary mission of WIPP is to include the receipt, handling and permanent disposal of defense low-level and transuranic waste only, and the temporary storage for experimental purposes of a limited amount of high-level waste.

All high-level waste must be removed upon the completion of these experiments, according to the legislation presently on the books.

This bill should not be confused in any way with current legislation that would establish a repository for commercial high-level waste.

There is no connection between the WIPP legislation and the creation of a commercial repository. Today's hearing is for the purpose solely of reviewing the WIPP legislation.

S. 1272 and the companion legislation in the House has several important provisions protecting the financial and economic interests of the state and local communities, including compensation to the state for lost mineral royalties and economic assistance payments to affected counties.

There are several issues that have been raised as a result of the introduction of these pieces of legislation, and they include:

First, whether the legislation provides adequate attention to health and safety concerns.

Second, what is the effect of a recent court decision that throws out existing EPA regulations for waste repositories.

Third, how adequately has DOE addressed the need for high-level waste experiments.

Fourth, have affected towns and cities received the necessary technical and management assistance from DOE to properly deal with the transportation of wastes through these communities.

Fifth, what transportation issues still need to be resolved.

I hope today's witnesses can address these questions and any other issues that will guide us as we seek to ensure that the legislation meets the best interests of the citizens of New Mexico, as well as the nation.

I welcome recommendations on how we can strengthen and improve the bill.

I am very pleased, of course, that we will be joined today by the entire New Mexico Congressional Delegation, and my colleague, Senator Domenici, who serves with me on the Energy and Natural Resources Committee, is here.

Congressman Lujan, as I understand it, is on his way, and will be here in the next hour or so.

Of course, Congressman Skeen, who represents this district of the state, and Congressman Richardson. So we appreciate everybody's presence.

Let me defer to my colleagues. Senator Domenici, if you have opening statements, please go ahead.

[The text of S. 1272 follows:]

II

100TH CONGRESS
1ST SESSION

S. 1272

To withdraw certain public lands in Eddy County, New Mexico.

IN THE SENATE OF THE UNITED STATES

MAY 21 (legislative day, MAY 13), 1987

Mr. BINGAMAN (for himself and Mr. DOMENICI) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

---

A BILL

To withdraw certain public lands in Eddy County, New Mexico.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "WIPP Land Withdrawal Act of 1987".

SEC. 2. LAND WITHDRAWAL AND RESERVATION FOR WASTE ISOLATION PILOT PLANT.

(a) WITHDRAWAL, JURISDICTION, AND RESERVATION.—(1) Subject to valid existing rights and except as otherwise provided in this Act, the lands described in subsection (c) are hereby withdrawn from all forms of entry, appropria-

tion and disposal under the public land laws, and from location, entry, and patent under the mining laws, the mineral leasing laws and the geothermal leasing laws.

(2) Such lands shall be known as the Waste Isolation Pilot Plant. Jurisdiction over the Waste Isolation Pilot Plant (including any resources located therein) is hereby permanently transferred from the Secretary of the Interior to the Secretary of Energy. The Waste Isolation Pilot Plant is reserved for the use of the Secretary of Energy for the construction, operation, repair and maintenance, shutdown, monitoring, post-decommissioning control, and other authorized activities associated with the mission of the Waste Isolation Pilot Plant as defined in section 8.

(b) MINERAL ROYALTIES.—In order to compensate the State of New Mexico for mineral royalties lost by reason of the withdrawal under subsection (a), the Secretary of the Interior shall pay out of the United States portion of the moneys described in section 35 of the Act entitled "An Act to promote the mining of coal, phosphate, oil, oil shale, gas, and sodium on the public domain" (30 U.S.C. 191; commonly referred to as the "Mineral Lands Leasing Act"), $10,091,233 for the fiscal year 1988 and each of the four subsequent fiscal years, adjusted annually after fiscal year 1988 in accordance with changes in the Consumer Price Index (published by the Bureau of Labor Statistics, Depart-

ment of Labor), to the State of New Mexico to be used in accordance with such section. A payment under this section shall be in addition to any payment to the State of New Mexico under such section 35.

(c) LAND DESCRIPTION.—(1) The lands referred to in subsection (a) are the lands comprising approximately 10,240 acres of public land in Eddy County, New Mexico, and any lands which may be acquired within the boundaries of such lands under section 3, as generally depicted on a map entitled "Waste Isolation Pilot Plant Proposed", dated March 1986.

(2) Within 90 days after the date of enactment of this Act, the Secretary of the Interior shall—

(A) publish in the Federal Register a notice containing legal descriptions of the lands withdrawn and reserved by this Act and legal descriptions of all the non-Federal lands and interests that are located within the boundaries of the lands withdrawn and reserved by this Act; and

(B) file maps and the legal descriptions of the lands referred to in paragraph (1) with the Committee on Energy and Natural Resources of the Senate and with the Committee on Interior and Insular Affairs of the United States House of Representatives, the Secretary of Energy, and the State of New Mexico.

(d) TECHNICAL CORRECTIONS.—Such maps and legal descriptions shall have the same force and effect as if they were included in this Act except that the Secretary of the Interior may correct clerical and typographical errors in such maps and legal descriptions.

SEC. 3. ACQUISITION OF NON-FEDERAL LANDS AND INTERESTS IN LAND.

(a) ACQUISITION BY THE SECRETARY OF ENERGY.—The Secretary of Energy may acquire non-Federal lands and interests in land within the boundaries of the Waste Isolation Pilot Plant through exchange of lands under the jurisdiction of the Department of Energy, purchase, donation, or otherwise. Any lands acquired pursuant to this subsection shall be added to, and managed (consistent with this Act) as part of, the Waste Isolation Pilot Plant.

(b) EXCHANGES BY THE SECRETARY OF THE INTERIOR.—(1) At the request of the Secretary of Energy that such non-Federal lands or interests in lands, or both, should be acquired through an exchange of public lands, the Secretary of the Interior may, in accordance with the provisions of section 206 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1716), exchange such public lands as the Secretary of the Interior finds suitable for private or State lands within the boundaries of the Waste Isolation Pilot Plant.

(2) Lands and interests in lands that are acquired by the Secretary of the Interior under this subsection shall not become public lands, shall be transferred immediately by the Secretary of the Interior to the Secretary of Energy, and shall be added to, and managed (consistent with this Act) as part of, the Waste Isolation Pilot Plant, notwithstanding any provision of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.) relating to transfers of jurisdiction over Federal lands from one Federal department, bureau, or agency to another Federal department, bureau, or agency.

SEC. 4. ESTABLISHMENT OF MANAGEMENT RESPONSIBILITIES.

(a) GENERAL AUTHORITY.—The Secretary of Energy shall be responsible for the management of the lands and resources withdrawn and reserved by this Act and shall consult and cooperate with the State of New Mexico in discharging those responsibilities as well as any other responsibility required by this Act.

(b) MANAGEMENT PLAN.—Within one year after the date of enactment of this Act, the Secretary of Energy, in consultation with the State of New Mexico, shall develop a management plan for the lands and surface resources withdrawn and reserved by this Act. In addition to other uses, the management plan shall provide for grazing, hunting and trap-

ping, wildlife habitat, the disposal of salt tailings remaining on the surface, and mining, in accordance with the following:

(1) GRAZING.—The Secretary shall permit grazing to continue where established prior to the date of enactment of this Act subject to such reasonable regulations, policies, and practices as the Secretary of Energy determines necessary or appropriate. Such grazing shall be in accordance with title IV of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1751 et seq.), the Act entitled "An Act to stop injury to the public grazing lands by preventing overgrazing and soil deterioration, to provide for their orderly use, improvement, and development, to stabilize the livestock industry dependent upon the public range, and for other purposes", approved June 28, 1934 (43 U.S.C. 315 et seq.; commonly referred to as the "Taylor Grazing Act"), and Executive Order 12548 (51 Fed. Reg. 5985).

(2) HUNTING AND TRAPPING.—The Secretary shall permit hunting and trapping within the area withdrawn and reserved by this Act in accordance with applicable laws and regulations of the United States and the State of New Mexico, except that the Secretary, after consultation with the New Mexico Department of Game and Fish, may issue regulations designating

zones where and establishing periods when no hunting or trapping is permitted for reasons of public safety, administration, or public use and enjoyment.

(3) WILDLIFE HABITAT.—In order to preserve the wildlife of the area withdrawn and reserved by this Act, the Secretary shall manage the lands and resources withdrawn by this Act so as to maintain the wildlife habitat, subject to the mission of the Waste Isolation Pilot Plant.

(4) SALT TAILINGS.—Notwithstanding any other provision of law, the Secretary shall dispose of salt tailings that are extracted from the Waste Isolation Pilot Plant site. Disposition shall be made in accordance with sections 2 and 3 of the Act of July 31, 1947 (61 Stat. 681; 30 U.S.C. 602, 603; commonly referred to as the "Materials Act of 1947").

(5) MINING.—No surface or subsurface mining unrelated to the mission of the Waste Isolation Pilot Plant, including slant drilling under the site from within or without the site, shall be permitted on or under the lands withdrawn for the Waste Isolation Pilot Plant, including after decommissioning.

(c) COOPERATIVE AGREEMENTS.—The Secretary of Energy may enter into cooperative agreements—

(1) with the Secretary of the Interior and the State of New Mexico for the administration of grazing within the area withdrawn and reserved by this Act; and

(2) with the State of New Mexico for the maintenance of the wildlife habitat of the lands withdrawn and reserved by this Act.

(d) REPORT.—Within one year after the date of enactment of this Act, the Secretary of Energy shall submit the management plan developed pursuant to subsection (b) to the Committee on Interior and Insular Affairs of the United States House of Representatives and the Department of Natural Resources of the State of New Mexico.

(e) WIPP-RELATED BUSINESS AND EMPLOYMENT OPPORTUNITIES.—To the maximum extent practicable, the Secretary of Energy shall continue to encourage business and employment opportunities related to the Waste Isolation Pilot Plant that may be conducive to the State of New Mexico, especially Lea and Eddy Counties, and report annually thereon to the State of New Mexico.

(f) IMPACT ASSISTANCE.—Within six months after the date of enactment, the Secretary of Energy, in consultation with the State of New Mexico, shall develop an economic impact plan which will include estimates of the social or economic impact of the WIPP project on community services in

affected counties of southern New Mexico, including but not limited to airport operations, roads, hospital services, schools, and other services. The Secretary shall make annual impact assistance payments to the State of New Mexico or appropriate units of local government similar to those established for such units in the Nuclear Waste Policy Act, Public Law 97–425, section 136(e) Impact Assistance, and section 116(c) Financial Assistance.

SEC. 5. DECOMMISSIONING OF WASTE ISOLATION PILOT PLANT.

(a) PLAN FOR ENVIRONMENTAL CONTROLS AFTER DECOMMISSIONING.—Within two years after the date of enactment of this Act, the Secretary of Energy shall submit to the appropriate committees of the Congress and to the State of New Mexico a plan for active and passive institutional controls for managing the facility after decommissioning. The plan shall be consistent with the environmental standards specified in Subpart B of Part 191 of volume 40 of the Federal Code of Regulations. The Secretary shall consult and cooperate with the State of New Mexico in the preparation of such plan.

(b) MANAGEMENT PLAN FOR LANDS AFTER DECOMMISSIONING.—Within two years after the date of enactment of this Act, the Secretary of Energy shall publish in the Federal Register a plan for the management and use of the lands

withdrawn and reserved by this Act following the decommissioning of the Waste Isolation Pilot Plant. The Secretary shall consult and cooperate with the State of New Mexico in the preparation of such plan.

SEC. 6. DOE REPORT REQUIRED ON RISKS AND BENEFITS OF HIGH LEVEL WASTE EXPERIMENTS AT WASTE ISOLATION PILOT PLANT.

(a) DETAILED PLAN.—Prior to conducting any high level waste experiments or receipt of any high level wastes at the Waste Isolation Pilot Plant, the Secretary of Energy shall publish a written report for dissemination to the State of New Mexico and the public describing in detail the Secretary's plan to conduct experiments with high level waste at the Waste Isolation Pilot Plant. The report shall be published within 2 years after the enactment of this Act, submitted to the appropriate Committees of Congress, and published in the Federal Register.

(b) CONTENTS OF REPORT.—The report required under subsection (a) shall address the need, costs, benefits, risks, safe retrieval mechanisms, the plans for the design and compliance with applicable regulations, and certification of the defense high level waste shipping cask for transporting and handling such experimental high level wastes at the Waste Isolation Pilot Plant.

(c) CONDITION ON TEMPORARY STORAGE OF HIGH LEVEL WASTE FOR EXPERIMENTATION.—No high level wastes shall be brought to the Waste Isolation Pilot Plant for such temporary experimentation unless and until the benefits from such experimentation significantly outweigh the risks.

SEC. 7. COMPLIANCE WITH EPA STANDARDS AND INCLUSION OF ENGINEERED BARRIERS.

(a) COMPLIANCE WITH EPA STANDARDS.—(1) On and after the date of enactment of this Act, the Secretary of Energy shall, with respect to the Waste Isolation Pilot Plant, comply in all respects with part A of the Environmental Standards of the Environmental Protection Agency for the Management and Disposal of Spent Nuclear Fuel, High Level and Transuranic Wastes (40 C.F.R. 191, Part A).

(2) Prior to receiving more than 15 percent by volume of the transuranic waste capacity of the Waste Isolation Pilot Plant, described as 6.2 million cubic feet of transuranic waste in the Waste Isolation Pilot Plant Record of Decision (46 Federal Record 91–62; dated January 23, 1981), the Secretary of Energy shall demonstrate that the Waste Isolation Pilot Plant meets the applicable environmental standards for the disposal of radioactive waste established in Part B of such Environmental Protection Agency Standards (40 C.F.R. 191, Part B), including the Assurance Requirements under such Part B.

(b) ENGINEERED BARRIERS REQUIRED.—The Waste Isolation Pilot Plant shall use both engineered and natural barriers to isolate the radioactive waste after disposal in compliance with, and as defined in, the Environmental Protection Agency Standards (referred to in subsection (a)) (40 C.F.R. 191). The barriers shall include, as a minimum, properly designed backfill, plugs and seals in the drifts and at the entries to the panels, and plugs and seals in the shafts and drillholes.

SEC. 8. DEFINITION OF PUBLIC LANDS AND WASTE ISOLATION PILOT PLANT.

As used in this Act:

(1) PUBLIC LANDS.—The term "public lands" has the same meaning given such term in section 103(e) of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1702(e)).

(2) WASTE ISOLATION PILOT PLANT.—The term "Waste Isolation Pilot Plant" means that project authorized—

(A) under section 213 of the Department of Energy National Security and Military Applications of Nuclear Energy Authorization Act of 1980 (Public Law 96-164; 93 Stat. 1265) as a defense activity of the Department of Energy for the express purpose of providing a research and

development facility to demonstrate the safe disposal of radioactive waste resulting from defense activities and defense programs of the United States Government which are exempted from regulation by the Nuclear Regulatory Commission; and as

(B) prescribed under article VI, (WIPP mission) in the "July 1, 1981 Agreement for Consultation and Cooperation", as amended by the November 30, 1984, "First Modification" thereof, between the State of New Mexico and the United States Department of Energy authorized by section 213(b) of Public Law 96-164, 93 Stat. 1265, which Agreement for Consultation and Cooperation, as modified, provides, in part, the following:

(i) The Waste Isolation Pilot Plant is intended to include receipt, handling, and permanent disposal of defense transuranic waste and temporary storage for experimental purposes of a limited amount of high-level defense waste.

(ii) All of the high-level waste will be removed from the Waste Isolation Pilot Plant upon completion of the experiments and prior to decontamination and decommis-

sioning of the facility. The transuranic waste will be subject to a period of retrievability prior to permanent disposal.

(iii) No defense remote handled transuranic waste (RH-TRU) with a surface dose rate in excess of 1,000 rem per hour will be shipped to the Waste Isolation Pilot Plant and no more than 5 percent of the total volume of 250,000 cubic feet (or 12,500 cubic feet maximum) of defense RH-TRU shipped to the Waste Isolation Pilot Plant will exceed 100 rem per hour surface dose rate. Defense RH-TRU waste shipped to the Waste Isolation Pilot Plant will not exceed the 23 curies per liter maximum activity level (averaged over the volume of the canister). The total curies of defense RH-TRU shipped to the Waste Isolation Pilot Plant shall not exceed 5,100,000 curies.

(iv) The amount of defense high-level waste (DHLW) used on an experimental basis will not exceed 430,000 curies per canister and a total of 17,200,000 curies.

(v) The Waste Isolation Pilot Plant is not designed for the permanent disposal of

high-level waste, nor has the Waste Isolation Pilot Plant site itself been characterized for such permanent disposal.

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STATEMENT OF HON. PETE V. DOMENICI, U.S. SENATOR FROM NEW MEXICO

Senator DOMENICI. Thank you very much, Mr. Chairman.

I kind of heard the subtle reminder in your opening remarks that we would like all the witnesses to be brief, because we have to get through, and I think you might have been suggesting that maybe we all ought to be brief, too, and I think you are right.

Let me just give you a couple of my observations.

Frankly, I think Senator Bingaman made the point that because high-level waste is discussed here, this ought not be confused with the current discussions in the United States with reference to a permanent high-level waste depository.

I do not believe there is any relationship between the two, and from my standpoint clearly there is none intended.

Second, I hear some say "we ought not pass the land withdrawal legislation until," and then I hear a list of untils.

Frankly, I see it quite kind of the other way. I think the land withdrawal legislation ought to be the vehicle to legislate any of the remaining concerns that we, as the delegation representing New Mexico and New Mexicans, have with reference to finalizing this Waste Isolation Pilot Project.

The Chairman has outlined, I think quite well, what the issues are. I think the land withdrawal bill is the exact right vehicle to solve these problems.

The purpose of the legislation is to try to solve them, and that is why we are here.

Clearly, one of the most important issues is to make sure that we put in legislation, if needed and where needed, those kinds of safeguards for the safety and health of our citizens; thus, in the reverse order, that this facility is indeed safe and sound from the health standpoint.

New Mexico is entitled to remuneration, as the Chairman indicated, because they have some future royalties that will be eliminated here.

The other issues are as the Chairman outlined.

It seems to me that this is one of the most important facilities in the United States of America. Obviously, it is important to the people of our state, and probably in a unique way, of utmost importance to the constituents right down here who have lived with it, been partners with it and worked with it.

I think I would be remiss, and this is the end of my opening remarks, if I did not indicate that there has been an awful lot of activity of a bipartisan nature in the past ten years with reference to this project.

As a matter of fact, this is not a Democrat or Republican project. I hope it is not a Democrat or Republican issue. It has never been in the past.

The distinguished Chairman has a very longstanding involvement. He was the Attorney General that settled the dispute with the Federal Government and entered into a very detailed statement of conditions and agreements between the State of New Mexico and the Federal Government.

That interest has continued through two governors, and continues to this date with the current governor, Governor Carruthers, who I see is here, completing the arrangements and agreements with the Federal Government, many of which we hope to incorporate in the legislation.

Obviously, we have to hear from a lot of people. I think it is fair to say, Mr. Chairman, that on the Senate side we are hopeful that we could move rather expeditiously after we have heard the issues to see if the bill that we introduced needs modification or change.

If it does, obviously, we will try to do that and move as quickly as we can, if we are certain that we have provided the safeguards and the compensation and other aspects of this that are required for the project's fair treatment of New Mexico and its protection of the health and safety of our constituents.

Thank you very much, Mr. Chairman.

Senator BINGAMAN. Thank you very much.

Congressman Skeen.

STATEMENT OF HON. JOE SKEEN, U.S. REPRESENTATIVE FROM NEW MEXICO

Mr. SKEEN. Thank you, Mr. Chairman.

I want to welcome all of my colleagues to the Second District. I know that we have a tremendous interest in this issue and we have worked hard to come to a resolution on it.

Mr. Chairman, I appreciate your holding this first hearing from the Senate side of the consideration of this bill in Carlsbad.

I think it is appropriate that we bring this hearing to Southeast New Mexico, since this area is obviously going to feel the greatest impact of the proposed legislation.

It is also the part of New Mexico that has provided continuous support for the Waste Isolation Pilot Project.

As the primary sponsor of the House version of the WIPP Land Withdrawal Act of 1987, I give my full support to this legislation and encourage its quick passage through Congress.

We are nearing the conclusion of many years of debate, discussion and compromise on the Waste Isolation Pilot Plant Project.

This premier research and storage facility is scheduled to receive the first shipment of transuranic waste in just 12 months.

I am pleased to say that to date this project was not only ahead of schedule but it is also under budget. This is a tremendous accomplishment I think that deserves acknowledgement.

I can safely say that WIPP, with its mission to become the first repository for defense generated transuranic waste, has the firm support of the entire New Mexico Delegation.

I believe we all recognize the extreme importance of the project, not only in providing a permanent storage facility for TRU waste, but also as a research facility that will ultimately help provide invaluable data on the disposal of transuranic and high-level waste.

It should be emphasized from the start that WIPP is not being built as a permanent repository for high-level waste. I hope this fact will be reiterated here today, as it already has.

While experiments with high-level waste will be conducted on a temporary basis, the only material that will be permanently stored at WIPP is defense generated transuranic waste.

The legislation we are discussing today is a product of three months of effort by the entire New Mexico Delegation to form a bill that addresses the basic issues of withdrawing the land around the WIPP site and compensating the State of New Mexico for lost revenues.

To address other concerns raised by members of the delegation, this legislation has been expanded to include certain environmental, economic and management issues. These issues go beyond the original scope of the WIPP land withdrawal bill.

However, it was agreed the delegation should work together to try and reach a consensus on these various issues, and most of these issues were resolved to the satisfaction of the delegation.

Unfortunately, a few issues remain in dispute, preventing the entire delegation from signing on as sponsors of the legislation.

These issues are important to me and they are of great concern to New Mexico. I am certain that they will be the focus of the discussion during today's hearing.

I hope that through the continued public discussion of the issues at this Senate hearing, and at future Congressional hearings to be held on this legislation, that the remaining unresolved problems related to WIPP land withdrawal can be settled.

I challenge anyone who says there has not been an adequate public debate on WIPP, its mission, and the need to ensure the safety of New Mexicans. Safety has always been the top priority of the delegation.

To cap our concern, this proposed legislation clearly reinforces the agreement between the Department of Energy and the State of New Mexico, and to ensure that the health and safety provisions are adhered to.

The legislation would withdraw approximately 10,240 acres of land, 8,960 acres are owned by the Federal Government, and the remaining 1,280 acres are state owned, and reserve them for the continued construction, operation and maintenance of the WIPP Project.

Administrative jurisdiction over the 10,240 acres would be transferred from the Secretary of Interior to the Secretary of Energy.

Because the State of New Mexico will not be able to receive potential royalties, and so forth, as we discussed earlier, this kind of compensation must be considered and taken care of.

It was determined that the Department of Interior will pay the State of New Mexico the consideration in this legislation some $10 million for each of the next five years.

The legislation establishes the procedure by which the Secretary of Energy is required to consult with the State of New Mexico and develop a management plan for the lands and surface resources.

Importantly, no surface or subsurface mining will be permitted on the lands to be withdrawn, including after the decommissioning of WIPP.

Then the Secretary of Energy must also submit to Congress and the State a plan for managing WIPP after decommissioning. The

plan must be consistent with certain standards established by the Environmental Protection Agency.

Economic considerations have also been included in the bill. Both the House and Senate bills require the Secretary of Energy to encourage business and employment opportunities in New Mexico, especially in Lea and Eddy Counties.

I would like to add that I fully support the provisions in the Senate Land Withdrawal Bill, which requires the Secretary of Energy to develop an economic impact aid plan that would provide assistance in certain counties in New Mexico.

Because of a technical error, this particular provision was left out of the legislation which I introduced in the House. I plan on having this paragraph included in the House Bill during the committee mark-ups of the House.

One of the missions of WIPP is to provide a temporary repository for defense generated high-level nuclear waste.

But before any high-level waste is brought into WIPP, the Department of Energy must provide the public with a report detailing DOE's experiments with high-level waste and show that the benefits of these experiments significantly outweigh the risks.

The legislation requires that before any waste is shipped to WIPP, the facility must meet certain Environmental Protection Agency standards regarding the management and storage of transuranic and high-level waste.

Before 15 percent of the capacity of WIPP is filled, the facility must meet EPA standards regarding the permanent disposal of transuranic waste.

Finally, the legislation clearly restates the limited mission of WIPP. It reaffirms that WIPP will never become a permanent repository for high-level waste, and that only a limited amount of high-level waste for experimental reasons can be placed at WIPP at any given time.

At the point of completion of the experiments, and prior to decommissioning, all high-level waste must be removed from the WIPP.

This parallels an agreement reached between the State of New Mexico and the Department of Energy as a part of the modifications to the agreement for consultation and cooperation.

It is plainly spelled out that WIPP will not be a permanent repository for high-level waste.

I firmly believe that the provisions in the bill I have just mentioned clearly show that the safety and well-being of New Mexicans weighed heavily on the delegation during these long deliberations.

I do not want to mislead anyone to think that all these provisions were original ideas of the delegation. This is not the case at all.

Many environmental issues, such as stating the limited mission of WIPP, the requirements to meet certain EPA standards, have already been agreed to by the State of New Mexico and the Department of Energy.

The delegation is just reinforcing these provisions in the legislation.

The one issue that is not addressed in this bill regards transportation. When putting together the legislation, the delegation agreed

that federal funds should be obtained to upgrade, improve or construct certain routes that will be used in the State of New Mexico to transport waste to WIPP.

There was disagreement on how to pursue this funding. As it turns out, the state entered into negotiations with the Department of Energy to obtain support for $190 million in appropriation, and did in fact receive the support of DOE.

Efforts will now continue to obtain authorization and appropriation of funds for these road projects.

The economic impact WIPP has and will have on Southern New Mexico is also a legitimate concern, and that is why the legislation addresses the issue.

But it should be recognized that WIPP is providing more than 600 jobs in this area, with an annual payroll of $22 million.

These employees are buying and renting homes, they are purchasing cars, groceries, clothing, et cetera, and they are paying taxes. They are definitely making a positive impact on this area's economy.

While $38 million in contracts have been awarded to New Mexico firms, the largest contract is yet to come. That is for the shipment of waste to WIPP.

Some 14 New Mexico trucking firms have been identified as potential carriers for DOE, and I know DOE is providing assistance to these firms in their efforts to bid on that contract.

I want very much to see that that contract goes to a New Mexico firm, if at all possible.

The issues that will be discussed here today are not new, but they nevertheless must be resolved. This is a forum from which to properly discuss the issues, and I hope we finally reach an understanding on WIPP and reach a consensus on this legislation, how the legislation will affect it.

WIPP is a project of national significance. The work and research associated with WIPP must be used as a foundation on which to address the need to safely dispose of all nuclear waste.

I want to see the project become operational as scheduled. To do less would be a disservice to this country.

I am pleased to be the cosponsor of the House version of this legislation and I believe the legislation protects the interests of New Mexico and ensure that WIPP can fulfill its intended mission.

Thank you very much, Mr. Chairman.

Senator BINGAMAN. Thank you very much.

Congressman Richardson.

STATEMENT OF HON. WILLIAM RICHARDSON, U.S. REPRESENTATIVE FROM NEW MEXICO

Mr. RICHARDSON. Thank you, Senator Bingaman, and first of all, thank you to the people of Carlsbad for hosting this hearing.

Let me just be very brief in my remarks, because I know we have got a long day and it is important that we hear witnesses here, and we do more listening than talking.

Let me just say that I support the concept of WIPP. I support the WIPP facility. I think it is important for national security. I think it is important for the state.

I want to commend Congressman Skeen for the process in which he has initiated for the entire New Mexico Delegation to be supportive of the WIPP facility and the legislation he has introduced.

I think he has done it in a very positive way, that has sought input from everybody, and I must add that I think it is critically important that we start the process of dealing with this legislation.

From the House side, I will add that Chairman Morris Udall of the Interior Committee in the next 30 to 60 days plans to visit the facility.

Failing that, there will be a hearing on the Interior Committee to deal with this legislation. We are ready to move.

However, I must add that I have some serious and substantial concerns about the land withdrawal bill, and I feel it is critically important that we deal with them now, because, as my colleagues on the delegation have stated, the land withdrawal legislation is the vehicle for most of this legislation.

I would like to divide up the concerns that I have into three parts.

First, issues relating to safety.

Second, issues relating to what WIPP is really for.

Third, issues relating to compensation for New Mexico.

As to safety, I think it is critically important that this facility meet all EPA standards before the first shipment comes into Carlsbad.

This is critically important because of a recent court decision where alternate standards on request with provision dealing with EPA standards is very insubstantial.

Second, I am concerned about WIPP as an experimental site for high-level waste experiments. I think it is critically important that we examine today the reasons for this provision in the legislation.

Third, perhaps the largest concern that I have is the issue of compensation. I do not feel the State of New Mexico has been compensated adequately for having the WIPP site.

Specifically, I feel that the agreement that the state has reached with the Department of Energy for $190 million in roads is inadequate because it does not enjoy the complete support of the Reagan Administration.

We have had agreements before with DOE, and while I think DOE has acted in good faith, the problems of dealing with the entire federal bureaucracy has not enabled DOE to fully comply with some of these past agreements.

Specifically, over $50 million in roads that were part of the initial articles of agreement have been complied with only recently because of the efforts of members of the New Mexico Congressional Delegation, specifically Senator Domenici and Congressman Skeen.

I feel very strongly that these agreements have to be more concrete, that they should be part of the legislation, and I feel very strongly that agreements without the support of the entire Reagan Administration and within the support of the congressional process are not adequate.

Second, the issue of contracts for surrounding communities in New Mexico, I do not think enough is done to ensure that the areas in Eddy County and Lea County are adequately taken into account when contracts are given.

I feel very strongly that emergency training for many of the surrounding communities in Southeast New Mexico funds must be provided and the provisions in the legislation are much too vague and unspecific.

I want to see some direct provisions that deal with some of these matters.

I have suggested a user fee which might be used either in state legislation or in federal legislation which might deal with some of these financial matters.

My concerns are very clear. I feel very strongly that the WIPP facility is safe, but it has to be 100 percent safe and it has to be done before the first shipment comes in.

Second, I want the people of New Mexico to get the maximum benefit out of this legislation. I do not think it is the case right now, and I think it is important that we put some of these provisions that deal with maximum compensation and benefit to our state into law.

Once again, I wish to pledge to my colleague, Joe Skeen, the author of this legislation, an interest on my part to move expeditiously in the House of Representatives so that concurrently we can deal with this legislation.

However, I feel very strongly that unless these issues are addressed, these concerns are allayed, that this legislation will not enjoy my support.

I do hope that we can move today in an expeditious manner to see if some of these concerns can be addressed.

Once again, Senator Bingaman, I thank you for inviting me, for extending the courtesy for the House to participate in your hearing, and I look forward to a productive day of listening to experts on this critically important matter for the state and the nation.

Senator BINGAMAN. Thank you very much.

Congressman Lujan.

STATEMENT OF HON. MANUEL LUJAN, JR., U.S. REPRESENTATIVE FROM NEW MEXICO

Mr. LUJAN. Thank you very much, Mr. Chairman.

Let me apologize for being late. I left Washington this morning, and it is quite a long trip, but I want to thank you for the opportunity of appearing at this hearing and for scheduling the hearing.

It brings us to a point that we have been looking for for a long time, to have hearings in Washington and here, so that we can move along with this legislation.

It has been a long, long hard road of 15 to 20 years from authorization to now, we are getting ready for the final land withdrawal.

Mr. Chairman, I think it is very important that we move ahead with the legislation. Let me say at this point that I support the legislation that Congressman Skeen has authored and of which I am a cosponsor.

It is important that we do it because if we do not, we just go on for a limited withdrawal as we are operating now, certainly we are going to have WIPP being operated without the guarantees and without the additions which we have in this legislation.

So just killing the legislation is not going to do anybody any good. We are all going to end up in a worse situation than we are if we do have the legislation, and for that reason I think it is very important that we move on, move forward and have the permanent withdrawal with this legislation so that we can get this project.

Thank you very much.

Senator BINGAMAN. Thank you very much.

Why don't we go forward now with our first panel, which are the federal witnesses. We have four witnesses scheduled. I believe there are some people accompanying them.

The four witnesses, if they would please come forward, Troy Wade, the Assistant Secretary for Defense Programs of the Department of Energy; Larry Woodard, with the Bureau of Land Management and State Director; Peter Meyers, with the National Academy of Sciences; and Sheldon Meyers, with the Environmental Protection Agency, if they would all please come forward.

Yes.

VOICE. Senator, the Mesa flight is 45 minutes late. Larry Woodard is on that flight. So you'll find that he's a little late in arriving.

Senator BINGAMAN. Well, I am sure by the time we get through the other witnesses, we will have consumed at least 45 minutes. Thank you.

Let me also indicate, I guess our first witness, Troy Wade, is accompanied by three gentlemen who are also very involved in this project, of course:

Ray Romatowski, who I believe all of us know is here with Troy. Jack Tillman, the project manager, and of course, Wendell Weart is also here.

They have all been extremely involved in this and we appreciate their presence, and could have questions for them as well.

I think the format we will follow here is to allow the entire panel to testify before we open it up to questions from those of us up here on the hearing, because I think otherwise we could get bogged down very quickly.

So Troy, why don't you go ahead and give your testimony, and then we will ask the other witnesses as well, and then we will have questions for all of them.

STATEMENT OF TROY E. WADE, JR., ACTING ASSISTANT SECRETARY FOR DEFENSE PROGRAMS, DEPARTMENT OF ENERGY

Mr. WADE. Thank you, Mr. Chairman.

It's a privilege for me to be here this morning as Acting Assistant Secretary for Defense Programs.

With your approval, Mr. Chairman, I will submit a detailed statement for the record and will summarize that statement now.

Senator BINGAMAN. Please.

Mr. WADE. Mr. Chairman, the Department of Energy strongly supports legislation to permanently withdraw the land at the WIPP site from the public land laws.

We are pleased to be asked to provide testimony on Senate Bill 1272 which would accomplish such a withdrawal, as has been part of the Department of Energy's long-range plan.

Let me make a few specific comments about Senate bill 1272. As you are aware, the Department of Energy and the Department of the Interior worked on a draft bill to be proposed by the Administration to withdraw the WIPP site from the public land laws.

The administration had envisioned that such a bill would be limited to only a few points specifically related to land withdrawal.

S. 1272 contains many details about the WIPP project and management of the land which we believe are adequately covered in other documents such as our comprehensive consultation and cooperation agreement with the State of New Mexico.

We would prefer that the land withdrawal legislation not include details that can best be handled through administrative management.

My written statement contains specific comments on portions of the bill which we believe will further clarify the language.

My staff and I, of course, are available to work with the committee.

We seek land withdrawal for the following reasons:

We currently have administrative land withdrawal issued by the Department of Interior in June of 1983.

This has been adequate for construction on the site, but does not authorize the transportation, storage or burial of any radioactive materials.

To operate the WIPP facility, legislative withdrawal is now required.

The radioactive content of the waste decays slowly, far beyond the 20-year withdrawal period established for administrative withdrawals by the Federal Land Policy and Management Act of 1976.

Further, EPA standards require that the Department of Energy exercise active institutional control over the disposal site for up to 100 years.

Finally, as you know, the Department has the statutory responsibility as well as the technical expertise for the operation of WIPP.

I would like to remind the committee of the mission of the Waste Isolation Pilot Plant.

Since the 1940's the United States has been generating radioactive waste in its national defense programs. These wastes are the byproduct of the production of nuclear weapons and the operation of military reactors.

Because much of this waste is hazardous enough to require isolation from the biosphere, it has been stored retrievably at government sites around the country.

The Department of Energy is responsible for developing and implementing methods for the safe and environmentally acceptable disposal of this waste.

Much of the waste is what is known as transuranic, or TRU waste. TRU waste is any solid waste, other than high level, that is contaminated with nuclides heavier than uranium to the extent that it is not suitable for surface disposal.

TRU waste exists in a variety of physical forms, ranging from unprocessed general waste, such as absorbent papers and protective clothing to decommissioned tools and glove boxes.

Mr. Chairman, I would point out to you and the members of the committee that there are examples of the kinds of things I'm talking about in these cutaway drums in front of the podium.

I might also comment, Mr. Chairman, that prior to my current assignment in Washington, I was Director of the Idaho National Engineering Laboratory.

As such, I was responsible for the TRU surface storage facilities and for the facilities that will be utilized to prepare the TRU waste for shipment to the WIPP facility.

I am pleased to report that the cooperation and coordination between INEL and the WIPP project is extensive and that all work done at INEL is reviewed by WIPP officials.

In addition, several personnel from New Mexico, representing the state, and many other interested groups have visited INEL to review the plans for shipment.

To my knowledge, all have been impressed by the extent of the preparation.

Both contact-handled TRU waste, which requires no shielding, and remote-handled TRU waste, which requires shielding to protect the workers who handle it, will be shipped to the Waste Isolation Pilot Plant, stored in a 100-acre storage area on a horizon located 2,150 feet beneath the surface in deep bedded salt.

WIPP is the result of many years of work in exploring long-term solutions for the management of radioactive waste generated by our nation's defense activities.

The facility will serve as a valuable research and development effort to demonstrate not only the behavior of radioactive waste in a geologic repository, but most importantly, the handling, certification, and transportation aspects of waste disposal.

The mission of the Waste Isolation Pilot Plant is identified in Public Law 96–164. WIPP is a defense activity of the Department of Energy for the express purpose of providing an underground research and development facility to demonstrate the safe disposal of radioactive waste resulting from defense activities.

In addition to receiving transuranic waste, experiments will be conducted at WIPP on defense high-level waste. This high-level waste will be removed upon completion of the experiments.

Let me emphasize that the mission of WIPP remains unchanged, and the high-level defense waste experiments are a necessary aspect of the total defense waste program.

The WIPP project is currently on time and within budget. This would not have been possible without the great support we have had from the state and local governments, and particularly the citizens of Carlsbad.

We would also like to thank Senator Bingaman and Senator Domenici for their support and guidance, Governor Carruthers and his administration for their support of WIPP and their continuing assistance, and Congressman Skeen for the help he has given us in developing a meaningful dialogue with his constituents in this district and the help he has given us in the House, including the introduction of H.R. 2504.

I would like now, Mr. Chairman, to address the health and safety issues.

WIPP is a safe facility and has maintained an excellent safety record. Programs for environmental protection, emphasizing public health and safety and preservation of the environment, are presently in place.

WIPP will comply with all Environmental Protection Agency regulations, including the environmental standards for the management and disposal of spent nuclear fuel, high level and transuranic wastes, published as 40 CFR Part 191.

WIPP will comply with Subpart A of those standards upon the initial receipt of waste, and thereafter.

Under an agreement reached this summer with the State of New Mexico, the Department of Energy will demonstrate compliance with Subpart B of those standards prior to receiving more than 15 percent by volume of the TRU waste facility capacity.

Although the First Circuit Court of Appeals has remanded the EPA standards to the Agency for further consideration, it is our intent, while the standards are on remand, to continue our performance assessment planning as though the provisions are still in effect.

In concert with interests expressed by the State of New Mexico Environmental Evaluation Group, TRUPACT—the container for transporting TRU waste to the WIPP facility—will be certified by the Nuclear Regulatory Commission prior to its use.

Let me now turn, Mr. Chairman, to the issue of road improvements.

Senator DOMENICI. Mr. Chairman, might I, with reference to Subpart A and Subpart B that he has discussed, might I just ask for a clarification.

Senator BINGAMAN. Sure.

Senator DOMENICI. Mr. Wade, there are some who think that you are making an inconsistent statement when you say you are going to comply with EPA standards and then proceed to talk about complying with Subsection A and ultimately with Subsection B.

Would you just, for the record and for us, in layman's language, distinguish between Part A and Part B.

I understand that in one instance we are talking about storage, in the other instance we are talking about disposal. Is that correct and is there a real difference in this facility between storage and disposal?

Mr. WADE. Senator, there is a difference, and Subpart A covers the phase of operation at WIPP prior to its designation as a repository, which, as you will remember, is five years away.

If I may, Senator, here with me at the table is Sheldon Meyers from EPA, who is the expert on that regulation, and I would defer the technical part of that question to Mr. Meyers.

I would like only to add that we will comply with Subpart A prior to receipt of any material. And as I said, our planning will consider that the standards are in effect and we will alter our operation should the standards be altered.

Senator DOMENICI. Mr. Chairman, I leave it up to your discretion.

Senator BINGAMAN. Why don't we go ahead with Mr. Wade's testimony and then Mr. Meyers will have an opportunity to comment

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on that exact point when he testifies here in just a moment, if you would go ahead.

Mr. WADE. Thank you, Mr. Chairman.

The issue of road improvements in New Mexico has also received much attention by the Department of Energy. We are committed to supporting $190 million in Federal appropriations for road construction and upgrades.

On July 6 of this year, Department of Energy officials met with state representatives to reach an agreement in principle regarding the roads issue, agreeing to support the $190 million Federal appropriation.

On August 4, this agreement in principle was formalized. Also in August, Assistant Secretary Ted Garrish met with Governor Carruthers to seek his guidance.

Representatives of the Department of Energy's Albuquerque office are continuing to meet with the state on this subject.

Representatives of my staff and the Department of Transportation met on October 6, 1987, to determine in what manner the Department of Energy can assist in supporting the issue of road funding.

On October 8, I spoke with Mr. Joseph Rhodes, Assistant for Policy to Federal Highway Administrator Ray Barnhart on this matter.

A letter which I have written to Mr. Barnhart has been submitted for the record, along with my formal remarks.

The Department will continue to advocate the need for road funds through liaison with the Department of Transportation and other appropriate Federal agencies.

In closing, Mr. Chairman, I would like to reiterate that the Department of Energy supports legislation to permanently withdraw WIPP lands. Withdrawal is vital to the Department's defense waste effort because the storage or burial of any radioactive materials at WIPP is not permitted under the current administrative withdrawal.

There has already been a considerable investment of public funds in this project and this legislation is important to fulfill the WIPP mission of service as the research and development facility to demonstrate the safe disposal of defense waste.

The mission of WIPP remains unchanged. The high-level defense waste experiments are necessary for the Department's total defense waste program and the high-level waste will be removed upon the completion of the experiments.

The Department is deeply committed to the health and safety of WIPP employee and the public, and has worked closely with state and other Federal agencies, and will continue to do so.

TRUPACT will be certified by the Nuclear Regulatory Commission and will comply with all applicable regulations issued by the EPA.

Let me remind you that there have been two administrative land withdrawals. As agreed upon ten years ago, the final step is permanent land withdrawal.

I would like again to thank all those who have supported the WIPP plan and have contributed to the project.

Mr. Chairman, that concludes my statement.

I would be pleased, of course, to answer any questions that you or other members of this distinguished committee may have.

Thank you.

[The prepared statement of Mr. Wade follows:]

STATEMENT OF TROY E. WADE JR.

ACTING ASSISTANT SECRETARY FOR DEFENSE PROGRAMS

BEFORE THE

SUBCOMMITTE ON PUBLIC LANDS, NATIONAL PARKS AND FORESTS

OF THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES

UNITED STATES SENATE

OCTOBER 12, 1987

The Department of Energy strongly supports legislation to withdraw permanently the WIPP site from the public land laws and to transfer control over the site to the Secretary of Energy. We are pleased to be asked to provide testimony on S. 1272, a bill that would accomplish such a withdrawal. First, I would like to brief the subcommittee on the status of the project.

The Waste Isolation Pilot Plant (WIPP), authorized by Public Law 96-164, is a defense activity of DOE to provide an underground research and development facility to demonstrate the safe disposal of radioactive wastes resulting from the defense activities and programs of the United States exempted from regulation by the Nuclear Regulatory Commission (NRC).

Since the early 1940's, the United States has been generating radioactive waste in national defense programs through the production of nuclear weapons and the operation of military reactors. Because much of this waste is hazardous enough to require isolation from the biosphere, it has been stored at Government sites around the country. DOE is responsible for developing and implementing methods for the safe and environmentally acceptable disposal of this waste.

Much of this waste is known as transuranic (TRU) waste. TRU waste is any solid waste, other than high level waste or spent nuclear fuel, that is contaminated with nuclides heavier than uranium to such an extent that it is not suitable for surface disposal. TRU waste exists in a variety of

physical forms, ranging from unprocessed general trash such as absorbent papers and protective clothing to decommissioned tools and glove boxes.

WIPP is the result of many years of work in exploring long-term solutions for the management of radioactive waste generated by our nation's defense activities. The facility will conduct valuable research and development to demonstrate not only the behavior of radioactive waste in a geologic repository but also the handling, certification, and transportation aspects of waste disposal.

Both contact-handled TRU waste, which requires no shielding, and remote-handled TRU waste, which requires shielding to protect the workers who handle it, will be shipped to WIPP.

The TRU waste will be sorted at WIPP in a 100-acre storage area at a depth of 2150 feet beneath the surface in a deep bedded salt formation.

In addition, this area will contain the underground support facilities and the experimental area. The WIPP surface facilities accommodate the personnel, equipment, and support services required for the receipt, preparation, and transfer of waste from the surface to the underground. The surface facilities are located on an area of approximately 35 acres.

This land area is a square--four sections by four sections in size, totalling sixteen square miles. The inner four sections of land constitute the outer boundaries of excavation for the underground development. The outer twelve sections provide an approximate one-mile subsurface natural

barrier for a WIPP disposal system. This buffer zone is an integral part of the disposal system.

WIPP has been under construction since 1981. The facility will be ready to begin receiving contact-handled TRU waste in October 1988. Remote-handled waste could begin arriving by January 1989. The TRU waste place in WIPP will be stored in a retrievable manner for approximately five years until a decision can be made regarding permanent disposal of the waste.

In addition to receiving TRU waste, experiments will be conducted at WIPP on defense high level waste. All of the high level waste placed in WIPP will be removed upon completion of the experiments and brought to the civilian radioactive waste repository.

Section 8 of S. 1272 sets forth the limits on the surface dose rate and the curies per liter maximum activity level of the remote handled waste, as well as the amount of high level waste which will come to WIPP. These limits accurately reflect DOE's plans.

PHASES OF WIPP

WIPP is a phased project. The Final Environmental Impact Statement for the project was issued in October 1980 with the record of decision to proceed with the project being issued in January 1981. Shortly thereafter, in April 1981, surface activity began at the site for the Site and Preliminary Design Validation (SPDV) phase of the project. Extensive surface-based

geologic and hydrologic studies have been made at the WIPP site since 1973. The SPDV phase of the project provided valuable, detailed knowledge of the subsurface conditions.

Two shafts were drilled during the SPDV phase. Four underground rooms were excavated to storage-room dimensions and about 9000 feet of connecting and exploratory drifts were excavated. During this phase the site was more fully characterized for its intended purpose and the major design elements for the project were validated through measurement and observation.

Upon completion of the SPDV phase, DOE concluded that construction of the WIPP could proceed in a safe and environmentally acceptable manner. As the Department indicated at the time and I will repeat today, the WIPP site has not been characterized for the disposal of high level waste.

LAND USE

I understand that State Bureau of Land Management Director, Larry Woodard, will provide the history and background on our use of the public land.

The site consists of 8,960 acres of public land owned by the United States and 1,280 acres--two sections--of State land. An exchange of the State-owned land for Federal land elsewhere in the State is near completion.

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During the early stages of the project we utilized the land under cooperative agreements with the Department of the Interior (DOI) .

Currently, the land is utilized under an administrative withdrawal issued by DOI in June 1983. That administrative withdrawal does not authorize use of the withdrawn lands for transportation, storage, or burial of any radioactive materials except for the use of radiological instruments normally used for nondestructive testing and geophysical logging. The land restriction currently in effect does not allow the receipt of wastes and it is our understanding that BLM will not allow waste storage until the land is legislatively transferred to this Department.

We seek permanent land withdrawal legislation for several reasons. Environmental Protection Agency (EPA) standards require that DOE exercise active institutional control over the disposal site for up to 100 years and passive control afterwards. A major component of DOE's institutional control program will be its ability to regulate resource recovery and other uses of the withdrawal area. DOE is the agency with the statutory responsibility for managing radioactive wastes and the technical expertise to do so. For these reasons DOE, rather than BLM, should be the agency that has jurisdiction and control over the WIPP site.

Furthermore, it is obvious that the 20-year period for administrative withdrawals under the Federal Land Policy and Management Act of 1976 will be insufficient. Accordingly, permanent control over the site should be transferred legislatively to DOE and the site should be withdrawn from operation of the public land laws.

RELATIONSHIP WITH THE STATE OF NEW MEXICO

DOE is pleased to have developed a fine working relationship with the State of New Mexico on the WIPP Project. The framework for our relationship is the consultation and cooperation process required by Public Law 96-164. DOE will provide technical reports, documents, and information of all types for State review and comment. Our interactions with the State include a broad range of continuous communication between DOE and various State groups, including the Environmental Evaluation Group (EEG), the Radioactive Waste Consultation Task Force (Task Force), and the Radioactive and Hazardous Materials Committee of the State Legislature.

We strive to provide all available information to the State and public to facilitate an independent assessment of the safety of WIPP activities. Our consultation and cooperation process includes responding to the State's comments and attempting to resolve any concerns the State may have about issues that might affect the health and safety of its citizens.
As an example of the State's involvement with WIPP, our interactions with the EEG alone have included 22 day-long Quarterly Reviews, many separate technical reviews, and responses to approximately 275 letters from EEG.

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CURRENT STATUS

The WIPP Project is currently:

- o On schedule
- o Within budget
- o In conformance with technical and institutional baselines

The baseline construction (initial construction projects), managed by the U. S. Army Corps of Engineers (USACE), was completed in FY-87. The Management and Operating Contractor (MOC) is now conducting systems operation tests. Additional construction or modifications which were identified during operational reviews, such as a ventilation shaft, Emergency Services Building, and Construction and Salt Handling hoist upgrade will be managed by the MOC.

The total project cost for WIPP is $699.6 million. This cost is in "year of expenditure" dollars through project completion. It includes capital equipment and operating costs for design, procurement, construction, project management, technical support, contact handled TRU waste transportation fleet procurement, and related R&D and geotechnical investigations. Our objective is to begin operations in the first quarter of FY-89.

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RESEARCH AND DEVELOPMENT PROGRAM

WIPP includes an underground area for conducting experiments at elevated temperature, initially utilizing electric heaters to simulate defense high-level waste, and later with small volumes of actual radioactive wastes. These experiments will examine issues of generic interest to defense waste isolation, as well as address issues which must be resolved to support isolation of TRU wastes at WIPP. Sandia National Laboratories is conducting scientific research to address issues related to disposal of defense waste in salt by modeling various scenarios to evaluate compliance with the EPA standard 40 CFR 191, and by conducting those tests necessary to provide confidence in the repository performance. Completion of the studies identified in this program plan will satisfy the State of New Mexico's requests for more detailed geologic and hydrologic data and for consideration of repository sealing methods.

WIPP will comply with all applicable regulations including the Environmental Standards for the Management and Disposal of Spent Nuclear Fuel, High Level, and Transuranic Wastes, 40 CFR 191, issued by the Environmental Protection Agency. WIPP will be in compliance with Subpart A of those standards when this legislation is passed and this land is transferred with authorization to receive waste. Under an agreement reached this summer with the State of New Mexico, we will demonstrate compliance with Subpart B of those standards prior to receiving more than 15 percent by volume of the TRU waste facility capacity. That same requirement is stated in S. 1272.

At the time we reached agreement with the State, we were aware that the First Circuit Court of Appeals had vacated the EPA standards to the agency for reconsideration. For that reason we stated our intent, while the standards were under reconsideration, to continue our performance assessment planning as though the provisions of the standards promulgated by EPA on September 18, 1985, were still in effect.

Performance assessment activities will carry out those studies necessary to address compliance with Sections 191.13, 191.15, and 191.16 of 40 CFR 191. Further areas of study will help to: (1) develop the potential breach scenarios for WIPP and their probability of occurrence; (2) develop a representative radioactivity level for the waste; (3) construct models for the contribution of engineered barriers to contain radioactivity; and (4) model the transport of radionuclides to the accessible environment, model the 1000-year anticipated repository behavior, and model the projected dose to man.

WASTE TRANSPORTATION

A contract has been awarded to Nuclear Packaging, Inc., to design and fabricate six units of transportation containers. These cylindrical-shaped TRUPACT-II containers will be used to ship contact-handled TRU waste from ten DOE facilities to WIPP. Nuclear Packaging, Inc., will design, test, obtain a certificate of compliance from NRC, and deliver the first unit for operational use by October 1988. Fabrication and assembly of the rest of the fleet, following initial delivery of six containers, will be done at the TRUPACT Assembly Facility in Carlsbad by Carlsbad-based Gregory

Enterprises, Inc., working under a subcontract to Nuclear Packaging. An estimated 25 new jobs will be created in Carlsbad during the fabrication and assembly of approximately 50 TRUPACT-II containers.

A contract has also been placed with Nuclear Packaging Inc. for two remote handled TRU waste casks and trailers. The casks will be certified by the NRC and delivery is scheduled for May 1989.

OPERATIONAL READINESS REVIEW

WIPP is preparing to enter its operation phase. Plans are being developed to assure maximum safety and reliability of all aspects of facility operations. Employee training and emergency action plan development are examples of activities currently being performed.

A formal Operational Readiness Review (ORR) will ensure that all systems are in place and functioning prior to start-up. To date, the ORR process has identified over 13,000 key events and/or analyses that require closer scrutiny prior to operation. The results of these analyses will enable management to prioritize design, construction, and operation changes to optimize reliability and maintain risk at an acceptable level.

ENVIRONMENTAL PROTECTION

A Radiological Baseline Program, which establishes radiological levels existing prior to bringing waste to WIPP, was initiated in July 1985. This

program will continue until operations begin. Operational radiological monitoring will begin six months before the start of operations. An ecological monitoring program is in place to monitor the non-radiological impacts of WIPP on the environment.

SAFETY AT WIPP

A comprehensive industrial safety program is in place for worker protection. This program includes extensive safety training for underground employees. Also, during construction, particular attention is paid to the quality of workmanship, through a quality assurance program, to ensure that critical components are built properly and will operated as planned.

To protect both WIPP employees and residents of Carlsbad, WIPP safety personnel have developed and practiced effective strategies for dealing with potential emergency situations, for example, tornadoes, floods, and fires. WIPP is equipped with fire trucks for both the surface facilities and underground and has an underground ambulance. On a regular basis, the WIPP emergency team conducts drills with neighboring organizations, such as surrounding fire departments.

Special preparations have been made to organize waste transport to the WIPP facility. Both normal transport and accident conditions have been evaluated. Our evaluations indicate that the radiological risk of transporting TRU wastes is small.

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EMPLOYMENT

During peak construction periods, employment at WIPP exceeded 650 people; when operational, WIPP will employ over 450 people. WIPP is the second largest employer in Carlsbad. All openings for permanent jobs are advertised in newspapers in the surrounding communities; approximately 60% of WIPP employees are from the local work force.

PROCUREMENT

As a DOE project, WIPP must comply with Federal regulations which ensure competition, fair prices to the Government, and the selection of qualified bidders. The WIPP Project has in place programs that assure compliance with regulations and yet maximize business opportunities for local suppliers and economically disadvantaged firms.

S. 1272

A few specific comments about S. 1272 are appropriate. Section 2(b) would make available to the State of New Mexico approximately $50 million over five years to make up for "mineral royalties lost." We oppose this provision along with the Department of the Interior. In addition, this bill contains many details about the WIPP project and management of the land which are adequately covered in other documents, such as our comprehensive Consultation and Cooperation Agreement with the

State of New Mexico. Although we would prefer that land withdrawal legislation not include many of the details which we believe can best be handled through administrative management, these provisions would not adversely affect the WIPP project.

We do have several technical amendments to the bill and I or my staff will be happy to work with the Committee to discuss these matters.

CONCLUSION

The WIPP construction effort is nearly complete; site validation will permit a high level of confidence in the suitability of the site; the transportation system will be available when needed; and an Operational Readiness Review System is in place to assure that WIPP will be ready to receive waste. We strongly support land withdrawal legislation as necessary to ensure the orderly implementation of the WIPP Project.

Department of Energy
Washington, DC 20585

OCT 05 1987

Honorable Ray A. Barnhart
Administrator
Federal Highway Administration
Washington, D.C. 20590

Dear Mr. Barnhart:

The State of New Mexico has supported and cooperated with the Department of Energy (DOE) in its efforts to construct and operate the Waste Isolation Pilot Plant (WIPP) for many years. As a direct result of that support and cooperation, the United States is moving forward with the Nation's first facility to demonstrate the safe disposal of radioactive waste arising from national defense programs. The WIPP is scheduled to begin operations in late calendar year 1988.

Certain highways in New Mexico have been designated as transportation routes for waste destined for WIPP. The State has identified the necessity for the construction of new roads in New Mexico, along the designated WIPP transportation routes, to provide relief routes away from frequently traveled existing highways and provide bypasses around congested urban areas. The New Mexico State Highway Department has proposed the following new roads as WIPP-related relief routes and bypasses:

1. Hobbs Relief Route
2. Los Alamos/Santa Fe Relief Route
3. Roswell Relief Route
4. Santa Fe Bypass
5. Artesia Relief Route
6. Carlsbad Bypass

The DOE recognizes and appreciates the support that the State of New Mexico has provided toward the achievement of this significant national goal and understands the State's need for improved highways. Therefore, the DOE supports and requests that the Department of Transportation act favorably upon requests by the State of New Mexico for up to $190 million for the construction of these needed roads. The State recognizes that such funding may be approved over a period of time and is determining the relative priority for each project.

I look forward to further cooperation between our agencies, and I will be pleased to provide information, from DOE's perspective, which supports the State's request for highway funds.

Sincerely,

Troy E. Wade II
Acting Assistant Secretary
for Defense Programs

Senator BINGAMAN. Thank you very much. I think before we get to questions here by the panel, we will go ahead and hear from the other members of this federal panel. I think that will improve things.

Sheldon Meyers is with the Environmental Protection Agency, Director of the Office of Radiation Programs. If you would go ahead, please.

STATEMENT OF SHELDON MEYERS, DIRECTOR, OFFICE OF RADIATION PROGRAMS, ENVIRONMENTAL PROTECTION AGENCY

Mr. SHELDON MEYERS. Thank you, Mr. Chairman, and members of the Subcommittee.

I appreciate the opportunity to appear at this hearing to present the current activities of the EPA in the area of high-level waste and transuranic radioactive waste management and disposal.

Let me talk a little bit about Part 191, which is the rule in question. The agency promulgated its environmental standards for the management and disposal of spent nuclear fuel, high-level transuranic radioactive waste on August 15th, 1985.

These standards were developed pursuant to the agency's authorities and responsibilities under the Atomic Energy Act of 1954, as amended, and Reorganization Plan No. 3 of 1970, and the Nuclear Waste Policy Act of 1982.

The standards consist of two subparts, A and B. Subpart A limits the radiation exposure of individual members of the public during the management and storage of the subject wastes prior to their disposal.

At the Department of Energy disposal facilities, these limits are 25 millirems to the whole body and 75 millirems to any critical organ per year.

Subpart B, on the other hand, establishes several different types of requirements following the disposal of the wastes. The primary standards for the period following disposal are long-term containment requirements that limit projected releases to the accessible environment for 10,000 years.

The agency estimates that under assumed, generic conditions these requirements would allow no more than ten premature cancer deaths in the first 10,000 years after disposal for each 1,000 metric tons of spent nuclear fuel and high-level waste, or one million curies of alpha-emitting TRU radionuclides.

In addition, a set of six qualitative assurance requirements were included to provide added confidence that the containment requirements will be met during this unprecedented regulatory period.

The third set of requirements limits exposure from all pathways, including drinking water, of individual members of the public for 1,000 years after disposal to 25 millirems per year.

Finally, a set of ground water protection requirements limits, for 1,000 years, radionuclide concentrations in special sources of ground water to the concentrations allowed by the EPA's interim drinking water standards.

Now, let me turn to the legal action that was concluded recently.

As you are probably aware, Subpart B has been remanded to the EPA by the U.S. Court of Appeals for the First Circuit. This is the

final outcome of a legal process that began in 1986 when several environmental groups, led by the Natural Resources Defense Council, and the States of Maine, Minnesota, Texas and Vermont filed petitions for review in several federal courts around the country.

These petitions were consolidated into the First Circuit. The court rendered its decision this past July, in 1987. That decision vacated and remanded the entirety of 40 CFR Part 191, even though only the two sections dealing with ground water and individual protection of ground water protection requirements were found defective.

In August of 1987 the Justice Department, on behalf of EPA, filed a motion requesting reinstatement of those portions of the standards which were upheld.

Late last month, the court did consent to reinstate Subpart A but continued to remand of Subpart B.

Briefly, the court concluded that:

One, disposal of high-level waste in mined geological repositories might be underground injection and that EPA failed to consider the Safe Drinking Water Act's Part C requirements on underground injection by potentially allowing endangerment of ground water by exceeding EPA's own drinking water standards.

Therefore, EPA must reconcile Section 191.15 and 191.16 with the Safe Drinking Water Act or adequately explain the divergence.

Two, EPA must supply an adequate explanation for selecting the 1,000-year design criterion in Section 191.15 and 191.16.

Finally, Section 191.16, the Ground Water Protection Requirements, was promulgated without proper notice and comment and must be reproposed for public comment.

Let me discuss briefly the significance of the remand.

We believe at this time that the main significance of the court's remand of Subpart B will be that in the near term, the national geologic disposal program for spent nuclear fuel, high-level and transuranic radioactive waste will have to go forward without benefit of a set of final standards.

It is too early to tell what effect, if any, this will have on the high-level waste repository, but we believe that given current DOE schedules it will not have significant repercussions.

We currently envision an approximate 2-year effort will be required to comply with the terms of the remand.

However, the situation is somewhat different for the Waste Isolation Pilot Plant. Even had the court not remanded 40 CFR Part 191, the standards under the current law would not be applicable to WIPP as a research facility.

The only DOE waste management operations which Subpart A covers are those which occur at a DOE disposal facility.

Therefore, until a facility is determined to be a disposal facility, Subpart A does not apply.

In the case of WIPP, the determining factor will be DOE's decision to convert the facility to a disposal facility.

I am not, of course, talking about the effects of agreements that DOE has made or might make regarding how or when it will demonstrate compliance with the EPA standards.

Regarding Subpart B, all other things being equal, DOE would have been expected to show compliance with Subpart B prior to disposal and had agreed to do so.

But now, with the court remand, Subpart B does not exist in the legal sense and, therefore, DOE has no EPA disposal standards with which to conform.

Thus, the passage of Senate 1272 would at this time mandate compliance only with Subpart A of 40 CFR Part 191, since that is all that is currently in force.

However, it may be desirable to clarify whether Senate 1272 requires compliance with Subpart A including its applicability section or with only the requirements of Subpart A less its applicability section.

This concludes my remarks. I will be happy to address any questions you may have.

Senator BINGAMAN. Thank you very much.

The next witness on this panel is Mr. Peter Meyers, who is the Staff Director of the Board on Radioactive Waste Management of the National Academy of Sciences.

Mr. Meyers, why don't you go right ahead, if you have some prepared statements, and we would be glad to hear your comments.

STATEMENT OF PETER MEYERS, STAFF DIRECTOR, BOARD ON RADIOACTIVE WASTE MANAGEMENT, NATIONAL ACADEMY OF SCIENCES

Mr. PETER MEYERS. Thank you, Mr. Chairman.

As you undoubtedly know, the National Academy of Sciences Board on Radioactive Waste Management has been involved with the WIPP program since the very early stages in an oversight role, specifically looking at the site preliminary validations phase, and later at the research program, including what I understand this subcommittee is very much concerned with, the experiments around the temporary emplacement of high-level defense radioactive waste.

I have brought for the record a copy[1] of the panel's 1984 interim report, which covers these high-level experiments to the extent that they were then understood, among a great many other things.

I have indicated on the cover and inside the report by highlighting those statements, conclusions and recommendations of the Academy that bear on the high-level waste experiments.

If there are other matters that the panel has addressed that the subcommittee is interested in, I will be glad to indicate those for inclusion in the record after the session.

I think that the only preliminary remark I would like to make is that the Academy has observed the detailed unfolding of the Department of Energy's experimental program from the beginning, and believe it to be an example of very high quality, higher than anything we have seen in the programs of the other countries, for the successful identification of the critical factors involving the placement of radioactive waste in a permanent repository.

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[1] Retained in subcommittee files.

I would be glad to answer any questions when the subcommittee has reached that point.

Senator BINGAMAN. Thank you very much.

I gather Mr. Woodard is still not here. We will hear his testimony when he arrives.

Let me go ahead and ask a few questions, and then allow my colleagues here to do the same.

Let me start, Mr. Wade, with a question to you. We have a provision in the bill, on Page 11 of the Senate bill, which says that prior to receiving more than 15 percent by volume of the transuranic waste capacity of WIPP, that goes on to say the Secretary of Energy shall demonstrate that Waste Isolation Pilot Plant meets the applicable environmental standards.

Why 15 percent? In your view, why is it necessary that DOE be permitted to go forward with the emplacement of 15 percent, or any percent, prior to meeting those EPA standards?

Mr. WADE. Well, I think, Mr. Chairman, the number of 15 percent, which was spelled out in the most recent modification of the consultation and cooperation agreement, is the first time that a percentage has been used with regard to receipt of waste versus compliance with standards.

Clearly, in a R&D facility such as this, a one-of-a-kind facility where these sorts of operations have never been conducted against any kind of regulation, some experience is needed.

In the past, although it has not been specified, it has been assumed that over the 5-year period for management and operation some 25-percent of the total volume of the repository would have been shifted to the pilot plant and would have been used for establishing the basis for conformance with EPA regulations.

So the 15 percent is in fact a more conservative number, and we believe one with which the Department can easily deal.

Senator BINGAMAN. Where does the 25-percent figure come from you just mentioned?

Mr. WADE. It was never specifically written, Mr. Chairman, it was an estimate just simply based on the fact that over the 20-year life of the repository, 100 percent of the waste would be delivered over the first 5-year period of research and development, 25 percent therefore would have been delivered if you just took a linear extrapolation of waste delivery.

But 15 percent is the first written, agreed upon figure and it was stipulated in the consultation and cooperation agreement.

Senator BINGAMAN. Is the DOE's position that the requirement that it be able to retrieve this waste makes it impossible for it to put the waste in in a form that complies with EPA standards? Is that your position?

Mr. WADE. No, I don't think that is our position. The waste will be delivered, all waste for the first 5 years will be delivered with the understanding that we store it underground, with the understanding that it can be retrieved, and it will be stored in compliance with whatever is the pertinent EPA regulation, in this case Subpart A.

If the decision is made to proceed to a repository, we believe that Subpart B will apply and we certainly believe we will be in conformance with that regulation.

Senator BINGAMAN. What would you have to do, if you went forward and put waste in the facility for 5 years, in compliance with Subpart A, and then at that point determine that Subpart B needed to be complied with, and you are saying to us today that it would be complied with, DOE would go ahead and do what was necessary to comply with it, what would be necessary to bring it into compliance with Subpart B at the end of that five years, with regard to everything you already put in there?

Mr. WADE. Mr. Chairman, this is such an important issue, and key to this hearing. If it's your pleasure, I would like to ask Dr. Weart to answer that question.

Senator BINGAMAN. That would be fine. I think it is a pretty key issue, and I would appreciate the best answer we can get.

STATEMENT OF WENDELL WEART, MANAGER, WASTE TECHNOLOGY DEPARTMENT, SANDIA LABORATORY

Mr. WEART. Mr. Chairman, Members of the Committee, I am Wendell Weart and I am manager of the Waste Technology Department of Sandia Laboratory, and for the last dozen years have been the technical manager for the WIPP scientific programs.

From the inception of the WIPP concept, we have anticipated that we would address all of the necessary issues that we must resolve to assure safe disposal of WIPP in a phased manner.

This started with laboratory experiments, and we most recently have progressed to simulated in situ experiments.

As we anticipated, there are a few remaining issues which we believe we cannot fully address to establish efficient confidence in our performance assessment without utilizing information gained from experiments on actual emplacements of the TRU waste at WIPP.

These experiments involve such things as gas generation from the organics in the TRU waste, as you see in these drums displayed here. That's a critical element, and analyzing the behavior and the long-term performance of WIPP after decommissioning, during the first 1,000 years and during the first 10,000 years.

We believe that this kind of information is essential in order to develop the performance assessment in which we can have the highest confidence.

There are many other factors that receipt of waste will address at WIPP. As Mr. Wade has mentioned here, this is a first-of-a-kind facility. It has never been done before.

There are many things which we need to validate and confirm. We have made these predictions based upon laboratory studies and based upon simulated studies, but we don't know, for instance, what the exact exposure dose will be to operators in this facility.

That can only be determined with confidence when we start to accept radioactive waste.

It's because of the need to put the finishing touches on our understanding at WIPP that we feel it's important to have waste receipt during this demonstration phase, during the R&D phase, so that we can make a more confident decision on converting to a real operating repository.

Senator BINGAMAN. Let me ask a couple questions. If you feel you need to have some waste in the facility in order to make these determinations, why 15 percent, why not 5 percent? Is there a scientific reason why 15 percent?

Mr. WEART. We have addressed the question of how much waste we need for various of these aspects that I just mentioned.

For the gas generation aspect, we believe that we need something on the equivalent of four full rooms of radioactive waste. This is more like 6 or 7 percent than 15.

We believe that in addition to this gas generation information, however, we also need the operating experience to be gained from making the transfer of operations and ventilation and the transfer between one panel of rooms to another panel of rooms, the start of construction of the third panel and the separation of waste emplacement air from construction air underground in WIPP.

This latter operational demonstration is more consistent with the 15 percent.

Senator BINGAMAN. So you do believe there are valid scientific reasons why you need to be able to emplace 15 percent of the waste?

Mr. WEART. Yes, I believe there are.

Senator BINGAMAN. Let me ask you the question I asked Mr. Wade. If you go forward, as the bill contemplates, as both pieces of legislation contemplate, and put up to 15 percent of this waste in the facility during the first 5 years, without complying with EPA standards, in order to bring all of the disposal in the facility into compliance with EPA standards, what do you have to then do?

Mr. WEART. Since the waste emplacement during the first 5 years would be used to monitor gas generation, and during that period of time we want to ensure that we can safely retrieve it, should we ever need to, the waste rooms will not be backfilled.

In other words, all the voids around the waste rooms will not be filled with crushed salt, as will be the eventual expectation.

Therefore, at the conclusion of 5 years, if it's determined that WIPP should be a repository, we will then have to make arrangements to add that backfill to those five rooms, or six rooms or eight rooms of waste that we had in place.

Senator BINGAMAN. Just to add that backfill, you mean that the drums or the containers in there would have to be taken out and brought to the surface and then put back in? Is that what you are saying?

Mr. WEART. No, not necessarily taken out. There are means, we believe, of backfilling using pneumatic stowing of backfill which would allow us to put the material in without removal of the drums.

That would have to be demonstrated, of course.

If, for some reason, that should not be satisfactory technique, what we would plan to do is simply take it out of one room, move it to another room and backfill it then as we would in the post-5-year period, but it would not have to be taken back to the surface.

Senator BINGAMAN. Mr. Wade said that there would be full compliance with EPA standards. I have a copy of testimony which I believe one of your assistants, Rip Anderson, gave at a hearing in

Idaho, or a conference in Idaho that the National Academy of Sciences had on September 22.

Let me just quote you this second sentence. In his testimony he says, preliminary calculations indicate that current data on void volume, brine inflow, closure rate and inventory give rise to potential problems in satisfying the requirements, referring, of course, to 40 CFR 191.

How does that square—as I understand him saying there are potential problems, how does that square with the statement that EPA standards will be complied with?

Mr. WEART. Well, this concern is exactly why we feel there should be a period during the first 5 years of emplacement to quantify this kind of information.

It allows us to make modifications to the design, should that be necessary; to alter the nature of the backfill so that the chemical environment in the waste rooms is more satisfactory; to perhaps use a grout backfill instead of a salt backfill.

All of these are things that can be done, should they prove to be necessary, but this is exactly the kind of information that we hope to learn from the first 5 years of pilot demonstration operations.

Senator BINGAMAN. Let me ask Sheldon Meyers, as I understand it, EPA has the ability to waive the requirement for compliance.

As you understand the legislation we now have before us, proposed legislation, if they were to go forward with storage at 15 percent or any amount which was not in compliance with EPA standards, or with Part B, at the time in the future would it be possible for EPA to go ahead and waive that requirement if it became difficult to meet it?

Mr. SHELDON MEYERS. Any regulation can be waived if provisions are made in the rule for it, but it can't be done just by someone sitting in a room and deciding to waive it. If it were done at all, it would be done in a full public hearing, notice and comment, and I can assure you that we would not just waive it arbitrarily, if it were done at all.

The best I can tell, there would probably be no reason to waive it at this time. The point is that anybody that has to meet a standard can always come in for a waiver.

If DOE came in for a waiver, we would review the record and determine why they wanted the waiver, whether or not it made any sense, what their reasons were, and then we would make a recommendation to the Administrator.

Senator BINGAMAN. Let me ask you also, in your testimony on Page 6 you say, regarding Subpart B, and other things being equal, DOE would have been expected to show compliance with Subpart B prior to disposal and had agreed to do so.

Then is it your understanding that there had been an agreement by DOE to go ahead and comply with both Parts A and B prior to disposal of any waste?

Mr. SHELDON MEYERS. That was a verbal agreement. The manner in which this rule works is that once it was promulgated a couple of years ago, EPA's role essentially ended. The enforcement of it would have been, on one hand, left up to the Nuclear Regulatory Commission for the commercial repository, and to DOE for the WIPP facility.

DOE came to us and asked if we would work with them to review their documents in advance. At that time they said they intended to comply.

What we said was, sure, we'll be glad to review the material, but anything we have to say will be made public. And they agreed with that, too.

So, from what I was able to see, they were eager to have EPA working with them so that at the time that they said they were going to comply, there would be no question that they were.

Senator BINGAMAN. Let me just ask one final question before I defer to my colleagues here.

Peter Meyers, with the National Academy of Sciences, do you agree with the assessment, based on your scientific background, with DOE's assessment of the need to put 15 percent in there in order to determine whether EPA standards can be complied with prior to being required to comply with those standards?

Is there a scientifically valid reason for that, in your opinion?

Mr. PETER MEYERS. Senator Bingaman, I would have to answer that in terms of the particular design for the scientific data that DOE feels is needed.

As Wendell Weart mentioned earlier, for some of the information they need, much less material will do. The exact details that would justify a full 15 percent have not been promulgated in the form, or the WIPP panel at the Academy has not been asked to address that question, so I can't answer your question on the basis of 15 percent.

I can say that it is clearly necessary for the successful conduct of the scientific experiments that have been detailed to have a significant number of drums of actual waste temporarily in place in the actual storage rooms in order to make measurements on the effects of gas generation in interaction with brine and the actual repository conditions.

Senator BINGAMAN. Thank you very much.

Larry Woodard is here. Larry, before we go to your testimony, I guess I would like to just continue with the questioning of these witnesses, if your time permits you to stay here and listen to some of this.

Mr. WOODARD. I apologize for being late.

Senator BINGAMAN. No problem. We are glad to have you here, and we will get to you here as we go along.

Senator Domenici.

Senator DOMENICI. Thank you very much, Mr. Chairman.

I don't want to belabor this issue that Senator Bingaman, the Chairman, has brought forth, but I think it is a critical one. There are only three or four, as I see it, that are critical, and this is one.

So would you permit me again, Sheldon Meyers, Mr. Wade, and Dr. Weart, if you could chime in, go through this and see if I can get it straight in my mind.

First of all, let me see if I am—if I make this statement, if you can agree with me. There is an intended difference between the word storage and the word disposal. Is that correct?

Mr. WEART. That is correct.

Senator DOMENICI. We cannot record your nods, so all three of you are saying yes?

Mr. WADE. That is correct.

Mr. SHELDON MEYERS. That is correct.

Senator DOMENICI. Dr. Meyers, from the National Academy, you agree with that, there has always been an intended difference between storage and disposal in this research facility. Is that correct?

Mr. PETER MEYERS. That is exactly correct.

Senator DOMENICI. All right. Now, with reference to the word storage, as I understand it, that is what is covered by Part A of the regulations that EPA has. Is that correct?

Mr. SHELDON MEYERS. That is correct.

Senator DOMENICI. All right. Now, let me depart for a minute. The permanent standards that EPA was intending to promulgate had to do with Part B. Is that correct?

Mr. SHELDON MEYERS. For final disposal?

Senator DOMENICI. For final disposal.

Mr. SHELDON MEYERS. That is correct.

Senator DOMENICI. And they were remanded on an issue not of the adequacy of the exposure limitations but on the issue of whether or not the Clean Water Act had been considered. Is that correct?

Mr. SHELDON MEYERS. That is correct. Drinking Water Act, rather.

Senator DOMENICI. Drinking Water Act.

Dr. Meyers, do you understand that to be the case?

Mr. PETER MEYERS. Yes, I do.

Senator DOMENICI. And is it fair to say that EPA contemplates promulgating the same standards that were in that law that was remanded when they complete their process after having complied with notice, et cetera, regarding the Drinking Water Act?

Mr. SHELDON MEYERS. Senator, that's not clear at this time for the following reason, the manner in which the court arrived at their conclusion was related to two piece.

Senator DOMENICI. All right. I don't need the answer, I understand, at this point. Now, let me proceed just quickly for a minute.

Dr. Weart, is this waste disposal site clearly being developed such that there is a real difference between ultimate disposal and storage from which you are going to learn more about the behavior of this transuranic waste and its ultimate possible situs?

Mr. WEART. Yes, there is a distinct difference.

Senator DOMENICI. All right. Is one of the differences that, if we had to, we could remove the stored waste before we turned it into a disposal facility?

Mr. WEART. That's correct.

Senator DOMENICI. It is hoped that you wouldn't have to, from what you have learned, is that correct?

Mr. WEART. We hope that that is true.

Senator DOMENICI. If you were to have ultimate standards in place right now, and they were those of EPA that were remanded, do you have an opinion as to whether those could be met?

Mr. WEART. We believe they can.

Senator DOMENICI. Now, do I understand then that the agreement that has been reached with the State of New Mexico, which we have incorporated in our legislation, is that up to 15 percent of the capacity of this facility, may be stored so that the research can

be done that is required prior to determining all of the final aspects of disposal. Is that correct?

Mr. WEART. Exactly.

Senator DOMENICI. Do you suggest to us that 15 percent is a reasonable number, but you might be in the process, you might be able to arrive at the scientific information with less, and if you can, you will? Is that a fair statement?

Mr. WEART. Yes, it is.

Senator DOMENICI. Now, Mr. Meyers, with reference to storage, not disposal. I hope we have clarified the difference here. There will be some who would like during the day to say that there may not be a difference. We have established here that you intend a difference, as I understand it, and you intend a difference, the Academy does as they look at it. Is that correct?

Mr. PETER MEYERS. That's correct.

Senator DOMENICI. Mr. Meyers, is there a standard for storage that would apply here that is in existence and valid?

Mr. SHELDON MEYERS. Yes, there is, Senator.

Senator DOMENICI. That is not in dispute, it is a standard. Is that right?

Mr. SHELDON MEYERS. That's correct, but it takes effect when DOE says it is a disposal facility, or they choose to comply on their own account. That's 25 millirems per year.

Senator DOMENICI. All right. Then I understand that, Mr. Wade, Dr. Weart, you intend to comply, as far as the storage experimentation aspects of this facility, with the EPA regulations regarding storage. Is that correct?

Mr. WADE. That is correct.

Senator DOMENICI. Do you intend, before you certify that you are going to turn this facility into a disposal facility, which means it is permanent and it has all of those attributes of thousands of years and will be there, do you intend to meet the EPA standards required for such a facility before that occurs?

Mr. WADE. That is correct.

Senator DOMENICI. Therefore, you have no disagreement that the legislation which we have would mandate that, do you?

Mr. WADE. None whatsoever.

Senator DOMENICI. Now, Dr. Wade, I want to talk a minute about a few of your other objections, because I have a great respect for you and the position that you take, some of it is your own, some of it is obviously OMB's, but I would like to take issue with you on two others and do it quickly.

First, with reference to the roads. Let me suggest to you that there is no absolute, certain way that we can get the Federal Government to agree that if they have agreed with our governor and our state to help us with road money, there is no way to assure 10 years of road money that I am aware of, unless we create a new entitlement.

But might I suggest to you that it is a fair assessment that the Department of Energy, either on their own or because of OMB, has been less than helpful in the $58 million that was agreed to a long time ago under the agreement that Senator Bingaman entered into when he was Attorney General.

I hope you are aware that we are somewhat skeptical as a result of the Department of Energy's commitment to help us with roadway money that has been agreed to with the state. Do you understand our concern?

Mr. WADE. I certainly do, Senator, and let me only ask you to look from this point forward. [Laughter.]

Senator DOMENICI. A bit of anxiousness.

Mr. WADE. Expectation.

Senator DOMENICI. Expectation. Let me ask, what would your objection be, if this is the case, and the delegation agrees, what would be your objection to just going ahead and authorizing these roads in this legislation, in the bill itself. They would be subject to appropriation later, like anything else you all do. And if you can't answer that because of administrative rules or the like, I would understand, but what would be the problem with that?

Mr. WADE. I think you and I share a concern, Senator Domenici, that there is a danger in seeking authorized and appropriated funds in one big block, that a vehicle for that is defense programs funding.

We would like to see a different source of funds. I think that is my only concern.

Senator DOMENICI. Alright. Then it is fair to say that the Department currently has a concern about that in that you are worried about what pot the money would come out of?

Mr. WADE. Right.

Senator DOMENICI. If it came out of the Department of Energy or Defense, we would strap many of the activities, so you would rather that it come out of the Department of Transportation or some other department?

Mr. WADE. That's correct.

Senator DOMENICI. All right. Now, Mr. Chairman, I think the high-level experiment deserves a series of questions much like we have done, but I think I will yield and I am sure somebody else will do that. If not, I would ask to be permitted to inquire with reference to the necessity for the high-level experiments in due course.

Senator BINGAMAN. Fine.

Congressman Skeen.

Mr. SKEEN. Thank you, Mr. Chairman.

Dr. Wade, let me ask you a question about this Part A, Part B situation once again, and are there requirements within the bill now for 15 percent volume capacity reached before we have the EPA standards met.

What if, in the passage of this legislation, we went to a zero requirement before you ever put anything in there, what would the effect be on the schedule that we have for WIPP now?

Mr. WADE. I think we would——

Mr. SKEEN. Meaning that before we put anything in there at all if we have to meet the EPA standards.

Mr. WADE. I believe that's a question that I really could not address with any finality today.

Mr. SKEEN. Well, anybody on the panel then.

Mr. WADE. In order to comply with the regulation, you have to have some data, and I suppose that an avenue available to us would be to argue that since there is no regulation in existence,

there is nothing with which we need to comply. We would never do that.

Mr. SKEEN. Wendell, do you have something to add? I think we ought to just bracket these questions as they come up, because this is a serious part of the consideration.

Mr. WEART. We have prepared a compliance plan for the Department of Energy which details how we would conduct the performance assessment and all the stages in that performance assessment to reach the point where we can have a confident determination of the status of compliance of WIPP with the standard.

In order to reach that point, we have to complete a large number of experiments, to which I alluded earlier, and we also have to gather information from the emplacement of these rooms of radioactive transuranic waste, in order to obtain that information we have always counted on, in order to have sufficient data base to conduct the kind of performance assessment that we will be able to stand the external scrutiny.

Mr. SKEEN. What you are saying, in effect, then, if we required that right from the outset, complete compliance with the EPA standards, it would be impossible——

Mr. WEART. Yes, if we can conduct the program that we have outlined, and it's a very aggressive and ambitious program, we will establish the compliance with the standard in late 1992.

We see no way of doing a quality performance assessment earlier than that date. That means that if we were not allowed to operate with radioactive waste until that point in time, it would be perhaps a 5-year delay.

Mr. SKEEN. I have a little problem, too, with the two recommendations or requirements. One is when you must comply and when they go into effect.

Apart from the time when DOE must comply with EPA standards for permanent disposal, is there a specific time when the EPA standards will actually go into effect?

Mr. WEART. Well, Subpart A, DOE intends to comply with Subpart A from the time we first receive radioactive waste at WIPP.

We believe that we have to comply with Subpart B before DOE can make a determination on whether or not WIPP remains an R&D facility or can be converted to a full operational repository.

Mr. SKEEN. So that it hinges still on the Part B area.

Mr. WEART. Yes.

Mr. SKEEN. There's a mandate that they go into effect, actually go into effect, when you go from a temporary repository to a permanent repository.

Mr. WEART. That's right.

Mr. SKEEN. Thank you very much.

Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you very much.

Congressman RICHARDSON.

Mr. RICHARDSON. Thank you, Mr. Chairman.

Mr. Wade, I have, in your opening statement, a statement that you made that I don't know if you said it, but I find a little bit of great concern.

On Page 3 you said, Section 2-B would make available to the state approximately $50 million in royalties over five years to

make up for lost mineral royalties. I support the Department of the Interior's opposition to this provision.

Now, are you saying that the Department of Energy and the Department of the Interior, and I assume the entire Reagan administration, does not support the $50 million in royalties to the state?

You say then, we should deal with this administratively.

Could you clarify what you mean about your position on the royalties for the state?

Mr. WADE. I believe that we have said from the outset that we believe that certain provisions that are in both versions of the—both the Senate and the House version are things that can better be handled administratively rather than by law.

The Department of the Interior has, I am told, gone on record as objecting to the $10 million a year for 5 years, and I was simply reflecting the Department of Interior's position, which is the position of the administration at this point.

Mr. RICHARDSON. Well, do you think the state should get any royalties? Do you think you owe the state anything for the transfer of this land or not?

Mr. WADE. Mr. Richardson, I would be—if I answered, I would give you Troy Wade's opinion, not the administration's opinion.

Mr. RICHARDSON. Well, let me just relate to Senator Domenici's question on the $190 million which I think is a concern of many New Mexicans about your commitment on a number of funding matters, specifically emergency training, impact resistance for the surrounding communities.

Specifically, the $190 million, Mr. Wade, you mentioned that you support, as the Department of Energy, the $190 million for roads for the state, which are not pork-barreled or to make the roads and bypasses of the state safe, but for the transportation of this waste.

Why don't you include these funds in the fiscal year 1990 budget if you were for—why is it that you are telling us that you support them, the Department of Energy supports them, it's as if the Secretary of Corrections of the State of New Mexico said he wanted more money for prisons but the Governor didn't support him.

I mean, isn't it analogous to this? Why don't you put the money in the Reagan administration budget if you are committed to it?

How about if you stretched it out over three or four years?

Mr. WADE. Mr. Richardson, I can only speak for the Department of Energy's part of the Reagan administration budget. We believe that were we to budget for the roads in Defense Program's part of the Department of Energy" budget, and were that appropriation—were that request to come before Congress, we would end up taking that money from some other part of Defense Program's operation.

It would not be additional money. That has been made very clear in the deliberations we have had in the past over the $58 million worth of roads.

We therefore support having that appropriation as part of the Department of Transportation's request.

Mr. RICHARDSON. Well, how does the Department of Transportation feel? [Laughter.]

I don't mean to carry this on to extremes, Mr. Wade, but I think—here you tell us, first of all, that you don't support the state

getting $50 million in royalties, that you think it should be done, quote, administratively.

Then you tell us that as an agency you support the congressional delegation in getting the $190 million through thick and thin and in a very lean budget. I think only recently my colleagues on the Appropriations Committee got the remaining money with little or no help from the Department of Energy.

Now, take these surrounding communities, Hobbs, Carlsbad, Chavis County, many other communities have received impact assistance from the Department of Energy, from the Federal Government when a facility like this takes place.

I am talking specifically about emergency training, assistance for schools, training programs for emergency response personnel, bypasses, equipment for emergency responders, improved medical facilities.

Is it DOE's responsibility, is it the Federal Government's responsibility to provide any impact assistance in this facility or not?

Mr. WADE. Certainly we have a responsibility, Mr. Richardson, and we believe that we are discharging that responsibility.

Now, we do have a program for emergency training, emergency assistance, as the transportation of the TRU waste into New Mexico comes closer.

With regard to impact assistance in the surrounding counties, perhaps there has been not enough attention to Lea and Eddy Counties.

You have heard us say that. We're looking at the transportation contracts in this part of the State of New Mexico.

I think other than—if you are asking me if I would just make an out and out statement that there should be a grant or some as yet undefined assistance to counties in Southeastern New Mexico, I can't sit here and say that.

Mr. RICHARDSON. How about would you work with this delegation if we proposed an amendment to the bill that deals with impact assistance?

Mr. WADE. Certainly. I have said that, and would work with this delegation, of course.

Mr. RICHARDSON. Well, I think it's essential that it be incorporated in the bill.

Now, Mr. Meyers, I'd like to follow up on a question that Senator Domenici asked, and I don't think we ought to—I don't want to appear to be beating the EPA question into the ground, but I think it's critical, and maybe all you need to do is deny on the record what I am asking.

Am I correct that unless we legislate, there are no EPA standards applicable to the WIPP facility so long as it is a storage or research facility unless DOE voluntarily consents?

That's the first part.

Mr. SHELDON MEYERS. That's correct.

Mr. RICHARDSON. That is correct. OK.

Number two, am I also correct that if the WIPP facility is going to be a disposal facility the standards have been remanded for notice and comment because portions were arbitrary and capricious?

I guess that's the language in the court decision.

In other words, right now there are no standards. Is that correct?

Mr. SHELDON MEYERS. Not quite. The Subpart A, which is both management and storage, has been reinstated.

Subpart B, which covers the disposal, is the part that has been remanded.

Mr. RICHARDSON. Well, I think it's critically important that we clarify this in the legislation, and that is your position.

Mr. SHELDON MEYERS. I'm not sure what you're asking.

Mr. RICHARDSON. Well, right now we have no standards, is that almost correct?

Mr. SHELDON MEYERS. We have Subpart A, which involves the management and storage.

Mr. RICHARDSON. Now, what is the problem with proceeding with having full EPA standards, or zero percent? Is there any—I guess Wendell has mentioned that there's some physical problem with that, but is there any legal or technical reason why, based on this Boston decision, that that cannot be complied with if it is in the legislation, full EPA standards before any waste comes into Carlsbad?

Mr. SHELDON MEYERS. If there is new legislation, clearly that would govern.

Senator DOMENICI. Congressman Richardson, would you yield just for a clarification?

Mr. RICHARDSON. Yes.

Senator DOMENICI. On the consent to be bound by the Subpart A, that is in the stipulated agreement, as I understand it, between the State of New Mexico and the Department of Energy, although we also have it in our legislation that they will be bound by it, but it is in the agreement with the state?

Mr. WADE. That is correct.

Senator DOMENICI. Thank you. I just wanted, as far as consent, to say they have consented.

Mr. RICHARDSON. Mr. Wade, I want to ask you a question on high-level waste experiments, and basically, I guess my question is why high-level waste experiments?

The question deals with high-level waste, it won't be disposed at WIPP, the geology of the WIPP facility is different from that of the three locations where high-level waste may be disposed under the Nuclear Waste Policy Act.

Since this means data from the WIPP site is not directly applicable to other sites, what is the rationale for high-level waste experiments at the WIPP facility? Why do we need to do them at WIPP?

We have said the mission is limited. It is a low-level military facility.

Wendell, I visited the facility, and you responded to that question. I'd like to get it on the record. If it doesn't appear to be part of the WIPP mission, why do it?

Mr. WADE. Well, it is part of the WIPP mission, Mr. Richardson, and I think from the point of view of the Defense Program's mission at the Department, it is critical that we utilize the WIPP facility to gather all of the data that is pertinent to the entire Defense Program's suite of responsibilities, including high level.

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We are spending a great deal of money at the defense waste processing facility in Savannah River to convert and encapsulate this high-level waste.

We need to understand—we need to experiment with the packaging. We need to try handling the transportation. Ultimately the defense waste is going to go to a repository.

If that commercial repository turns out to be in a salt formation, then we would have gained additional data there. But the reasons for the high-level waste experiments in WIPP are several-fold. They are to help us with our remotely handled TRU waste. They are to help us gain data on packaging, handling and transportation, both TRU and high-level waste, and they are to help me fulfill what is the entire mission of Defense Programs, namely, how to handle radioactive waste from generation to storage.

Mr. RICHARDSON. Wendell, do you want to add? I recall there was some kind of reason that was given to me before about international interest in the facility, that there would be valuable international information disseminated. Is that accurate, Wendell?

Mr. WEART. Well, there are several reasons why I think it's very important that WIPP proceed with high-level waste experiments.

For many years, as long as I have been associated with radioactive waste management programs, the issue has always arisen in technical circles, scientific meetings, from the opponents of nuclear waste disposal and nuclear power in general, to the end that the problem of disposing of nuclear waste is too difficult to solve and that this country is incapable of doing those things and taking those steps to demonstrate that it can be solved.

Here at WIPP, we have a very unique laboratory, if you will, and Congress saw fit, when it authorized WIPP, to call it an R&D facility.

We can use this unique facility, I think, to address with defense high-level waste those few remaining issues which we cannot address with simulated experiments, which we cannot address in the laboratory, and resolve once and for all that there is a method and a place and a medium in which high-level waste can be safely disposed of.

Now, these experiments are oriented toward defense high-level waste, but the processes and the phenomena are generic.

I have often heard it said that these will be of no value to the commercial program. If so, it's truly unusual that we have to host so many visits from commercial program people in this country and from people from many foreign nations wanting to know what the results of our experiments are, wanting to know when the high-level waste experiments will be proceeding.

So I think that's one of the most important rationales for doing high-level waste experiments, to address a very troublesome issue and one of this country's major programs.

There are spinoffs that will help WIPP itself in the disposal of the transuranic waste. These experiments will be an over test for the remote-handled TRU and there are even some elements that will address the contact-handled radioactive experiments at WIPP.

So these are the reasons that I believe it's essential to proceed.

From the Department of Energy's standpoint, they need to know that the waste forms that are being prepared at Savannah River

will function in the way in which they have been advertised and determined to function in the laboratory.

It just seems that WIPP is such a unique facility, we should take advantage of it to address all these outstanding problems.

Mr. RICHARDSON. Mr. Wade, I have two final questions.

First, are there any plans, if this legislation gets bogged down, for the Department of Energy to make these withdrawals administrative?

Mr. WADE. We have no plans at this time, Mr. Richardson. Clearly we need to proceed. A third administrative land withdrawal is an option that we would only consider if all else failed.

I would remind you that the plan for the last decade has called for this legislative land withdrawal, and we need to get on with it.

Mr. RICHARDSON. Well, I hope it doesn't reach that stage, and I hope it isn't even an option, because a lot of these safeguards that we are talking about I don't think would be included.

My last question, would the Department of Energy oppose some type of a user fee associated with the waste as it comes into the state to fund perhaps some of the emergency training programs, to fund some of the roads?

I understand the State of Michigan has enacted legislation that would impose a user fee, and I am not going to use the word tax, because I understand that's not very popular these days, as a means of financing many of these, quote, mechanisms or priorities that we are all talking about.

I know I am not giving you any specifics, but there are some of us trying to develop this kind of initiative, which might be used to pay for some of these exorbitant costs that we're talking about.

Mr. WADE. Congressman, I don't think that the Department of Energy would oppose such an initiative.

However, I would certainly hope that the delegation would look very carefully at such an initiative and the implications that it could have nationwide.

If every state through which TRU waste or ultimately high-level waste or spent fuel is transported imposes a user tax, somehow that's going to end up coming out of the pockets of the taxpayers of the United States of America.

I think you just have to be very careful about instituting something of that nature.

Mr. RICHARDSON. Mr. Wade, my interest is the taxpayers in New Mexico primarily, and the concern that I have, quite frankly, besides the environmental concerns, is that in my state and these surrounding communities the—not the compensation, not the payoff, but simply I think the costs associated with this facility.

Granted, this facility has brought jobs and I think a lot of scientific validity to very important national security projects.

But I don't think my state—I don't think the state is being adequately compensated, and I don't think the guarantees that the Federal Government is showing are strong, are substantial; they're fuzzy.

They involve words like administrative and let's consult together, and at this time options—I want some concrete assurances, and this vehicle, this bill, I believe, is the vehicle to take care of these concerns.

Senator BINGAMAN. Congressman Lujan.

Mr. LUJAN. Thank you very much, Mr. Chairman. I will try to be brief, we still have a lot of panels.

It seems to me, I seem to get the feeling that we are being super careful about what we do here. Is that correct?

Is there any other facility, military facility anywhere that subjects itself to regulation by another federal agency or is this the only one?

Mr. WADE. There are certainly other DOD and other Department of Energy facilities that are subject to outside regulation, but you are correct, Mr. Lujan. I think we have been ultra conservative since conception of the Waste Isolation Pilot Plant and I think properly so, because it is, as Dr. Weart has pointed out, a one-of-a-kind facility.

We have no data against which we can assure ourselves, much less anybody else, that something we're going to do has been proven safe elsewhere. So we have been very careful from the outset.

Mr. LUJAN. Well, speaking of that, how much data we have, in the discussion of Subparts A and B of the environmental standards, apparently because we do have enough data for the handling of low-level waste for storage, that's why those regulations will go into effect immediately upon passage of this legislation.

Is that the reason for it? Because we do have enough data for handling the low-level waste disposal, is that correct?

Mr. SHELDON MEYERS. It's partially correct. We do have a lot of experience in moving around and managing low-level waste, which is almost the equivalent of this.

As has been said earlier, we do not have, nobody has, as far as I know, a geological repository for the disposal of high-level or transuranic waste.

So we do have the kind of experience that would tend to protect the public health from a facility like this.

Mr. LUJAN. Well, you have the experience in the handling of the storage to which Subpart A applies.

Now, that takes us then to the Subpart B, you have some experience with the same material that you're going to bring here, which you have in Idaho at the moment, and you had it covered and there has got to be some data there that you can extrapolate to what will happen when you put it 3,000 feet under the ground.

Mr. SHELDON MEYERS. Congressman, this is a different kind of facility, as you know.

Mr. LUJAN. I understand that.

Mr. SHELDON MEYERS. It is sitting on a concrete bed and covered up. The manner in which the rules define disposal is after all the waste has been emplaced, the rooms have been backfilled and the shafts have been sealed. That is disposal.

Mr. LUJAN. We're talking here as if we don't know what's going to happen there. We do have some idea of what's going to happen underground because of the experience that we have, even though you have it on a concrete pad and it's covered, you know how it's behaving.

You know the amount of heat that it's going to generate. You know a lot of the behavior, so you're not just in the dark, putting these barrels in there and let's see what happens.

Mr. SHELDON MEYERS. That is true.

Mr. LUJAN. So we do have a lot of data. It's not just we're going to put them in there and see what happens in the future.

Mr. SHELDON MEYERS. One other point that's relevant is the manner in which DOE will show compliance with the rule is by a reasonable expectation of meeting it through a mathematical calculation.

We are not going to sit around for a thousand years and take measurements. So up front, before they reach this point, whether it's 15 percent or another number, they would have to show, through an analysis, reasonable expectation of meeting the standards.

Mr. LUJAN. Well, I understand.

One final question, and that is the question of, if this legislation doesn't go forward, the temporary withdrawal or an extension can be granted in such a way that we can have—allow for transportation, burial and storage. Is that correct?

Mr. WADE. Certainly we could—there are ways we could proceed with another administrative withdrawal, but I think the Department of Interior has clearly indicated to us for a number of years that it is in our collective best interests, since we are better equipped to deal with this particular kind of problem, that it is in our collective best interests to transfer the entire responsibility to my agency.

Mr. LUJAN. I understand that, but failing to pass this legislation, or some legislation for permanent withdrawal does not automatically kill WIPP. Is that correct? The storage, the permanent disposal of low-level nuclear waste at WIPP.

Mr. WADE. It does not automatically kill it, that's correct.

Mr. LUJAN. Thank you.

Senator BINGAMAN. Senator Domenici, do you have another question?

Senator DOMENICI. Yes, sir, just one with reference to high-level nuclear waste experimentation.

Again, so that I can preface my remarks correctly, we are not talking anywhere in this legislation, or the original concept of WIPP or the consent agreement with the state, about this becoming a permanent repository site for high-level waste, defense or otherwise. Is that correct?

Mr. WADE. That is correct.

Senator DOMENICI. Now, having said that, we have, since its inception, contemplated high-level experimentation with defense waste, and we are now refining it in our legislation so that it is not site specific to this site and to this medium, but rather that it be generic, and then we have got other qualifying conditions that the benefits exceed the risks, et cetera.

Would you, Dr. Meyers, comment for the record, and then I would like you again to try to tell me with more specificity, Dr. Weart, what you think the research would be.

Dr. Meyers, would there be a generic, non-site specific, not salt medium benefit that could come from high-level experimentation at this site?

Mr. PETER MEYERS. Yes, indeed there would. There is much to be gained by the actual examination in situ of the interaction between high-level waste and the various media.

Those who say that even if a commercial repository were to be established in salt, it could be different salt and therefore experiments of WIPP would not be applicable, that is much to narrow a view to be valid.

From the scientific standpoint, there is a great deal that is common about salt, whether it is salt in the WIPP facility, whether it is salt in Texas, whether it is a salt dome, whether it is bedded salt.

There are specific questions having to do with the verification of the models that have been postulated for how the interactions could take place, that cannot be established in the laboratory and need to have actual experiments in situ.

Now, it is true that if the eventual repository for high-level waste is in a salt medium, there will be differences between that salt and the WIPP salt, but the similarities are sufficiently great, and the scientific proof that can be garnered from the existing experimental facility and the planned experiments are sufficiently great that this country would be crazy if it didn't avail itself of this facility and the progress that has been on the WIPP project to get this valuable data.

Senator BINGAMAN. Congressman Skeen, did you have another question?

Mr. SKEEN. Yes, I did, along the same line, talking about high-level data, I know that the Europeans have for a number of years been handling commercial waste repositories in Sweden, under the basaltic formations under the fjords, and so on.

How specific or how much help is that data, if any, to the situation that we handle in the United States, or would assume that would be required, with the data that would be required to make disposition within the United States, and I'd like Wendell to answer that.

Mr. WEART. The Europeans, in several countries, Sweden, West Germany, to name a few, are well advanced in their plans for high-level waste repositories.

None of them to date, however, have disposed of high-level waste in any geologic environment, although the Germans have disposed of very radioactive waste, something that we might call remote-handled TRU, in the salt beds at the OSS facility in Germany.

We have profited a great deal from the German experience, but insofar as high-level waste in any geologic environment, there is no information at the present time, only plans to do that.

Mr. SKEEN. What kind of geologic formations does Sweden have?

Mr. WEART. The Swedes are planning to dispose of their radioactive waste in granite.

The French are studying both granite and salt.

The Germans are looking primarily at salt, as are the Dutch.

The Italian people are looking at clay. So there's a vast variety of geologic materials being studied, but none of them being implemented.

Mr. SKEEN. Every situation, then, is a different problem, essentially, for a different data base.

Mr. WEART. To some degree, certainly insofar as the specific data, but the techniques and the technology being used to obtain this data are similar in all.

In fact, this is one of the biggest transfers that WIPP could make to other programs, is the technology, the methodology and not the specific data itself.

Mr. SKEEN. Thank you.

Senator BINGAMAN. Congressman Richardson has one more question. Go ahead.

Mr. RICHARDSON. Thank you, Mr. Chairman.

Mr. Wade, it's my understanding that DOE is considering a new packaging design and that this design has not yet been demonstrated to provide adequate protection of the TRU waste from fire and impact. TRU being T-R-U.

How would DOE show that the new package will meet the equivalent safety standards of the NRC, or does the DOE intend not to comply with that showing? You're familiar with what I——

Mr. WADE. Yes, sir, and the—I think I understand your question, Congressman Richardson. It is our stated intent that TRUPACT II will not only meet the provisions of the NRC, it will be licensed by the NRC.

Mr. RICHARDSON. The trucking, the contractor of that transportation, is it the view, as expressed by Congressman Skeen and others, that it be done by a New Mexico operation, by a Southeast New Mexico operation?

Mr. WADE. Certainly I think we can all hope that. I think you understand, Congressman, that we are trying to abide by the Federal Acquisition Regulations.

The contract has been identified as a 100 percent 8–A set-aside. The proposal is—the requests for proposals have gone out. We are expecting an award, as I recall, early next year, and let's hope it all turns out the way we want it to.

Mr. RICHARDSON. There are plenty of New Mexico firms that can do that, from this area.

Mr. WADE. So I understand.

Senator BINGAMAN. All right. Let me ask one additional question, too, Mr. Wade.

What is DOE's position, your view is that EPA standards will be complied with. If we were to provide in this legislation that the EPA did not have authority to waive or grandfather those requirements in this facility, would you support that?

Mr. WADE. Certainly. I think in any case we will comply with the EPA regulations.

Senator BINGAMAN. So a prohibition against waiver of those regulations is not a problem for DOE.

Mr. WADE. Certainly it's not a problem as we envision it at this time. I cannot foresee a set of circumstances, Mr. Chairman, where we would seek a waiver from any regulation to this facility.

Senator BINGAMAN. Mr. Meyers, did you want to comment?

Mr. SHELDON MEYERS. Yes, I just wanted to bring up a point. Any waiver would go through a rulemaking process, just as the regulation itself did, so it's not anything that could just happen. I just wanted to make that very clear.

Second, the waiver provisions were put in for a number of reasons, like the impacting other parts of DOE's program, for example, there has been discussion about the waste——

VOICES. We can't hear you.

Senator BINGAMAN. Would you hold that mike up there.

Mr. SHELDON MEYERS. There has been some discussion about the wastes in the Hanford tanks as being difficult, if not impossible, to get out, solidify and move to a repository.

One of the options being considered is to solidify in place. That would require a waiver. So I just suggest that further analysis be done before a complete ban on waivers or regulations are provided.

Senator BINGAMAN. Thank you very much.

Before we conclude this panel, Larry Woodard has been extremely patient, and he is our other witness.

We are glad to have you here and we look forward to your testimony. Larry is the State Director of the Bureau of Land Management.

STATEMENT OF LARRY L. WOODARD, STATE DIRECTOR, NEW MEXICO STATE OFFICE, BUREAU OF LAND MANAGEMENT, DEPARTMENT OF THE INTERIOR

Mr. WOODARD. Thank you, Senator Bingaman.

We had problems getting a door closed on a Mesa Airline this morning, and considering their problems this past week with suitcases, we had to take a different flight. [Laughter.]

I appreciate the opportunity to testify before you today on S. 1272, and we support enactment of the bill if it could be amended in a manner that I will discuss later in my statement.

Let me just skip to Page 2, in the interest of time, since the previous part dealt with a recitation of what is contained in the bill.

The Department of the Interior has consistently advocated a permanent congressional withdrawal of the WIPP site before transuranic nuclear wastes are stored in the facility.

The Bureau of Land Management has been involved with the WIPP proposal since 1973 when some initial site studies were authorized by a cooperative agreement.

In 1976, the first withdrawal application was filed for 17,200 acres of public land, and in 1980, an environmental impact statement was completed and a modified withdrawal application filed on 8,960 acres of land to protect the four square miles surrounding the proposed facility.

In March 1982, an 8-year administrative withdrawal, Public Land Order 6232, was filed on the 8,960 acres to allow for finalization of the site preliminary design validation.

When this validation was completed in 1983, another 8-year administrative withdrawal under Public Land Order 6403 was granted to permit full construction of the facility.

This latest withdrawal action by the Secretary of the Interior applied to the 8,960 acres of public land, and also provided that it

would encompass 1,280 acres of state land if these lands were acquired by the United States.

We have worked closely with the Department of Energy for a decade to get to the point where we are today. The Department of Energy has cleared the oil and gas leases on the public lands and the potash leases on state sections.

BLM is fully cognizant of the national security implications of WIPP. Based upon our analysis of the geologic and environmental issues surrounding the site itself, we are satisfied with the studies and conclusions reached by the Department of Energy as to the use of these public lands as a transuranic nuclear waste pilot project.

One significant action that must still be accomplished to complete the WIPP withdrawal is the BLM-State of New Mexico land exchange.

This exchange involves the acquisition of 1,280 acres of state trust properties for 2,519 acres of public lands. The public lands selected by the state are partially encumbered by Federal potash leases held by the New Mexico Potash Company.

In order for the exchange to proceed, New Mexico Potash Company will be require to relinquish its federal leases and take state leases in their place, concurrent with the exchange.

We understand that negotiations between the Department of Energy and New Mexico Potash Company are almost complete and that the proposal is under review by the Department of Justice.

When that review is completed, the exchange between BLM and the State Land Office can be completed in a few weeks. If the exchange can be completed before S. 1262 is enacted, section 3 of the bill could be deleted.

We have the following concerns about the bill—one I consider to be major, the rest are just sort of housekeeping matters.

The first is the major one. We strongly oppose section 2(b) of the bill. This provision would require the Secretary of the Interior to pay the State of New Mexico $10 million annually for 5 years, beginning in fiscal year 1988, and adjusted each subsequent year by the Consumer Price Index, for the loss of mineral royalties as a result of the WIPP withdrawal.

Such compensation would be taken from the United States portion of the revenues received under Section 35 of the Mineral Lands Leasing Act.

The annual payments would be in addition the monies that the state receives under section 35; that is, 50 percent of all monies received from sales, bonuses, royalties and rentals of public lands within the state.

We oppose this provision. Payments to New Mexico under this bill would have to be taken from funds that would otherwise be distributed to the General Treasury and the reclamation fund.

The United States Claims Court in Case No. 526-85T, *State of New Mexico* v. *United States of America*, December 30, 1986, found that state compensation is not required in situations such as this.

The solicitor of the Department of the Interior in 1980 reached the same conclusion.

This bill implies that the state has an inherent right to these monies, while in fact this award is at the discretion of the Federal Government.

If enacted, this provision would set an onerous precedent for other withdrawal actions.

As to some minor technical adjustments, section 2(c)(1) of the bill states that the withdrawal would comprise approximately 10,240 acres of public lands in Eddy County, New Mexico, and any lands which may be acquired within the boundaries of such lands under section 3.

The existing withdrawal by the Department of Energy consists of 8,960 acres of public lands and surrounds 1,280 acres of state lands, two school sections.

While the total acreage that is encompassed by the Waste Isolation Pilot Plant is correct, it is incorrect to include state lands in the acreage designated as public lands.

The bill should be amended to reflect that there are 8,960 acres of public lands within the boundaries of WIPP. Of course, if the exchange with the state is consummated before the enactment of the bill, those lands would become public lands.

Another point is Section 2(c)(2) of the bill which would require the Secretary of the Interior to publish a Federal Register notice to describe the withdrawn land and to file maps and the legal description with the appropriate congressional committees, the State of New Mexico and the Secretary of Energy.

We question the necessity of filing a description of the project in the Federal Register in any event. Because the lands would be under the jurisdiction of the Secretary of Energy, we recommend that the agency handle this responsibility, while the Secretary of the Interior receives a filing.

We likewise recommend that section 2(d) be amended to require that technical corrections to maps and legal descriptions be made by the Secretary of Energy.

Section 3(b)(2) of the bill would provide that lands acquired by exchange by the Secretary of the Interior under that section for addition to WIPP would not become public lands and would be transferred immediately to the Secretary of Energy.

We recommend that the language be amended to provide that the lands automatically, upon vesting of title in the United States, shall be reserved and become a part of the reservation established by the bill.

This would eliminate the unnecessary step of transferring jurisdiction from the Department of the Interior to the Department of Energy.

And lastly, S. 1272 would withdraw the WIPP lands from the mining, mineral leasing and geothermal leasing laws.

We do not believe it is necessary to withdraw the lands from the mineral leasing or geothermal leasing laws because it may be possible to allow those activities without interference with the purposes and functions of WIPP.

We suggest that the bill be amended to withdraw the lands from the mining laws but not from the mineral leasing or geothermal leasing laws.

Let me just amplify on that. We do not in any way want to indicate that we propose leasing this area, because no leasing would be allowed if it in any way endangered the project.

But if somewhere down the line that were possible, then we think that option should remain.

This completes my statement.

Thank you very much.

[The prepared statement of Mr. Woodard follows:]

STATEMENT OF LARRY L. WOODARD, STATE DIRECTOR, NEW MEXICO STATE OFFICE, BUREAU OF LAND MANAGEMENT, UNITED STATES DEPARTMENT OF THE INTERIOR, BEFORE THE SUBCOMMITTEE ON PUBLIC LANDS, NATIONAL PARKS AND FORESTS, COMMITTEE ON ENERGY AND NATURAL RESOURCES, UNITED STATES SENATE, ON S. 1272, A BILL "TO WITHDRAW CERTAIN PUBLIC LANDS IN EDDY COUNTY, NEW MEXICO."

I appreciate the opportunity to appear before the Subcommittee today to discuss the views of the Department of the Interior on S. 1272. We support the enactment of S. 1272, if amended in a manner that I will discuss later in my statement.

Section 2 of the bill would withdraw approximately 10,240 acres of land in Eddy County, New Mexico, from all forms of entry, appropriation, and disposal under the public land laws, and from location, entry, and patent under the mining laws, the mineral leasing laws, and the geothermal leasing laws. These lands would be known as the Waste Isolation Pilot Plant (WIPP), and they would be reserved for the construction, operation, repair and maintenance, shutdown, monitoring, post-decommissioning control, and other authorized activities associated with the mission of WIPP. Jurisdiction over the WIPP site would be transferred from the Secretary of the Interior to the Secretary of Energy. This section would also require the Secretary of the Interior to pay the State of New Mexico over $10 million for fiscal year 1988 and each of the four subsequent fiscal years as "compensation for mineral royalties lost" because of the withdrawal of lands for WIPP. This would be in addition to any payment to the State of New Mexico under section 35 of the Mineral Lands Leasing Act.

Section 3 would authorize the Secretary of Energy to acquire non-Federal lands and interests in land within the boundaries of WIPP through exchange, purchase, donation, or other means. The Secretary of the Interior would be authorized to exchange public lands for private or State lands within the boundaries of WIPP upon the request of the Secretary of Energy. The lands that the Secretary of the Interior would receive in the exchange would be immediately transferred to the Secretary of Energy and managed as part of WIPP.

Section 4 would require the Secretary of Energy, in consultation with the State of New Mexico, to develop a management plan for the lands and surface resources withdrawn and reserved for WIPP. The management plan would be required to provide for grazing, hunting and trapping, wildlife habitat, the disposal of salt tailings remaining on the surface, and mining. Section 4 would also require the Secretary of Energy, in consultation with the State of New Mexico, to develop an economic impact plan which would include estimates of the social or economic impact of the WIPP project on community services in affected counties of southern New Mexico.

Section 5 would require the Secretary of Energy, in consultation with the State of New Mexico, to submit a plan for environmental controls for the WIPP facility after decommissioning, as well as a management plan for the lands after decommissioning.

Before the Secretary of Energy could conduct any high level waste experiments or receive any high level wastes at WIPP, he would be required by section 6 to publish a detailed report describing his plans to conduct such experiments for dissemination to the State of New Mexico, appropriate congressional committees and the public.

Section 7 would require the Secretary of Energy to comply with the Environmental Standards of the Environmental Protection Agency for the Management and Disposal of Spent Nuclear Fuel, High Level and Transuranic Wastes. Engineered and natural barriers would be required at the WIPP facility to isolate the radioactive waste.

The Department of the Interior has consistently advocated a permanent congressional withdrawal of the WIPP site before transuranic nuclear wastes are stored in the facility. The Bureau of Land Management (BLM) has been involved with the WIPP proposal since 1973 when some initial site studies were authorized by a cooperative agreement. In 1976, the first withdrawal application was filed for 17,200 acres of public land. In 1980, an environmental impact statement was completed and a modified withdrawal application filed on 8,960 acres to protect the four square miles surrounding the proposed facility.

In March 1982, an 8-year administrative withdrawal -- Public Land Order (PLO) 6232-- was filed on the 8,960 acres to allow for finalization of the Site Preliminary Design Validation. When this validation was completed in 1983, another 8-year administrative withdrawal (PLO 6403) was granted to permit full construction of the facility. This latest withdrawal action by the Secretary of the Interior applied to the 8,960 acres of public land, and also provided that it would encompass 1,280 acres of State land if these lands were acquired by the United States.

We have worked closely with the Department of Energy for over a decade to get to the point where we are today. The Department of Energy has cleared the oil and gas leases on the public lands and the potash leases on State sections. BLM is fully cognizant of the national security implications of the WIPP program. Based upon our analysis of the geologic and environmental issues surrounding the site itself, we are satisfied with the studies and conclusions reached by the Department of Energy as to the use of these public lands as a transuranic nuclear waste pilot project.

One significant action that must still be accomplished to complete the WIPP withdrawal is the BLM/State of New Mexico land exchange. This exchange involves the acquisition of 1,280 acres of State Trust properties for 2,519.43 acres of public lands. The public lands selected by the State are partially encumbered by Federal potash leases held by the New Mexico Potash Company. In order for the exchange to proceed, New Mexico Potash Company will be required to relinquish its Federal leases and take State leases in their place concurrent with the exchange. We understand that negotiations between the Department of Energy and New Mexico Potash Company are almost complete and that the proposal is under review by the Department of Justice. When that review is completed, the exchange between BLM and the State Land Office can be completed in a few weeks. If the exchange can be completed before S. 1272 is enacted, section 3 of the bill could be deleted.

We have the following concerns about S. 1272:

1. We strongly oppose Section 2(b) of S. 1272. This provision would require the Secretary of the Interior to pay to the State of New Mexico $10,091,233 annually for 5 years beginning in FY 1988 adjusted each subsequent year by the Consumer Price Index, for the loss of mineral royalties as a result of the WIPP withdrawal. Such compensation would be taken from the United States portion of the revenues received under section 35 of the Mineral Lands Leasing Act. The annual payments would be in addition to the monies that the State receives under section 35 -- that is -- 50 percent of all monies received from sales, bonuses, royalties and rentals of public lands within the State.

We oppose this provision. Payments to New Mexico under S. 1272 would have to be taken from funds that would otherwise be distributed to the General Treasury Fund and the Reclamation Fund. The United States Claims Court in Case No. 526-85T, State of New Mexico vs. United States of America, December 30, 1986, found that State compensation is not required in situations such as this. The Solicitor of the Department of the Interior, in Opinion M-36929, December 30, 1980, reached the same conclusion. S. 1272 implies that the State has an inherent right to these monies, while in fact this award is at the discretion of the Federal Government. If enacted, this provision would set an onerous precedent for other withdrawal actions.

2. Section 2(c)(1) of S. 1272 states that the withdrawal would comprise approximately 10,240 acres of public land in Eddy County, New Mexico, and any lands which may be acquired with the boundaries of such lands undersection 3. The existing withdrawal by the Department of Energy consists of 8,960 acres of public land and surrounds 1,280 acres of State land -- two school land sections. While the total acreage that is encompassed in the Waste Isolation Pilot Plant is correct, it is incorrect to include State lands in the acreage designated as "public land". The bill should be amended to reflect that there are 8,960 acres of public lands currently within the boundaries of WIPP. Of course, if the exchange with the State is consummated before enactment of this bill, those lands would become public lands.

3. Section 2(c)(2) of S. 1272 would require the Secretary of the Interior to publish a Federal Register notice to describe the withdrawn lands and to file maps and the legal description with the appropriate congressional committees, the State of New Mexico, and the Secretary of Energy. We question the necessity of filing a description of the project in the Federal Register in any event. Because the lands would be under the jurisdiction of the Secretary of Energy, we recommend that he handle this responsibility, with the Secretary of the Interior to receive a filing.

We likewise recommend that section 2(d) be amended to require that technical corrections to maps and legal descriptions be made by the Secretary of Energy.

4. Section 3(b)(2) of S. 1272 would provide that lands acquired by exchange by the Secretary of the Interior under that section for addition to WIPP would not become public lands and would be transferred immediately to the Secretary of Energy. We recommend that the language be amended to provide that the lands automatically upon vesting of title in the United States shall be reserved and become a part of the reservation established by the bill. This would eliminate the unnecessary step of transferring jurisdiction from the Department of the Interior to the Department of Energy.

5. S. 1272 would withdraw the WIPP lands from the mining, mineral leasing and geothermal leasing laws. We do not believe it is necessary to withdraw the lands from the mineral leasing or geothermal leasing laws because it may be possible to allow those activities without interference with the purposes and functions of WIPP. We suggest that S. 1272 be amended to withdraw the lands from the mining laws but not from the mineral leasing or geothermal leasing laws.

This completes my statement. I will be pleased to answer any questions.

Senator BINGAMAN. Thank you very much, Larry. I think you made some valuable suggestions in here that we want to seriously consider.

In the interest of time, I will just forego any questions at this point and ask my colleagues if they have questions that they would like to ask.

Senator Domenici.

Senator DOMENICI. Mr. Chairman, I too will be brief, but I just want to say to Larry, with reference to the payments to the State of New Mexico contemplated by the bill we have introduced, you object on two grounds there.

You don't want it to come out of the mineral fund and you don't think we ought to pay it because you say it would set a precedent.

If we did not have it coming out of the mineral fund, would that lessen your objection?

Mr. WOODARD. Probably not.

Senator DOMENICI. All right. [Laughter.]

Then your objection is based upon precedent, I assume.

Mr. WOODARD. Yes, it is.

Senator DOMENICI. Are you aware of the cranberry wilderness in West Virginia case, legislation?

Mr. WOODARD. No, I'm not.

Senator DOMENICI. I would suggest that you look at it. If ever there was precedent, it's that. It's even one step removed. That wilderness bill compensated the surrounding counties in West Virginia for county and local taxes to be lost by changing the Federal land from one qualification and kind of use to another.

So I would just suggest that you look at it, but in the final analysis it appears to us, at least to me, and I hope all of us, that this is a very unique facility, it's different.

The State of New Mexico, to this point, has been a good host state. This county and the surrounding areas have been good host counties, and frankly, we truly believe the State of New Mexico would have collected substantial mineral revenues from this land under the mineral leasing laws, and we think there's an issue as to how much.

We are clearly prepared to discuss that with you all and your economists, but you should pay something.

I regret to tell you that because you are a very good public servant and I think that's just the plain and simple fact of it. [Laughter.]

Senator BINGAMAN. Congressman Skeen, did you have a question?

Mr. SKEEN. Larry looked like he wanted to answer there, and I'm not sure he does or doesn't. [Laughter.]

Go ahead, Larry.

Larry, I want to ask you, I know you did your evaluation, and what did you come up with as the potential mineral production on the site?

Mr. WOODARD. I do not have the figures in front of me as to mineral production, per se. Our dollar estimates were that somewhere between $6 million and $9 million of federal royalties to the state would probably be foregone.

Mr. SKEEN. Your high figure was $9 million?

Mr. WOODARD. Yes. The issue over the $50 million relates to a variety of state taxes which the state economists have added in as also being lost.

Our estimate is that if that is a reality, both the state and ourselves are quite close on figures. It's just a question of what——

Mr. SKEEN. Potential production.

Mr. WOODARD. That's right.

Mr. SKEEN. You understand our concern, of course, being a high—an area of large federal impactment in this state.

You said something about precedent over there, and we are fighting the White Sands situation and that's been an ongoing thing for some 40 years.

There has been a precedent set there, too, for compensation, and would that have any bearing as far as precedent in regard to this kind of withdrawal?

Mr. WOODARD. Of course, the precedent on White Sands was ultimately that the state lands were traded out of there.

Mr. SKEEN. Yes, sir.

Mr. WOODARD. My feeling is that if you want to pay the state $50 million, we would hope that it not be related to foregone royalties, but for some other reason, if that's what you choose to do, because——

Mr. SKEEN. If you find a good reason, then we got a good reason.

Mr. WOODARD. I'm looking down the road one step, as you gentlemen propose a statewide BLM wilderness bill, and that's our concern.

Mr. SKEEN. I understand that, Larry, and I appreciate your forthright appraisal of what the situation is and the fear that you have of setting a precedent that could come back and haunt us somewhere down the line.

Thank you very much, Mr. Chairman. That is all the questions.

Senator BINGAMAN. Congressman Richardson.

Mr. RICHARDSON. Mr. Chairman, I also will join my colleagues in expressing regret that the BLM does not support the $50 million.

As I understand it, and I know the state panelists will be up right after, the $50 million was arrived at by the State of New Mexico. That is a state figure, is it?

Mr. WOODARD. Yes, it is.

Mr. RICHARDSON. But that includes a number of other benefits that they claim would not be accrued.

Mr. WOODARD. Yes. Congressman Richardson, as I understand it, our joint figures on the potential lost royalties if these lands are not leased, are quite similar.

Mr. RICHARDSON. What is that, Larry?

Mr. WOODARD. That is the share of the——

Mr. RICHARDSON. No, no, what is the amount?

Mr. WOODARD. Between $6 million and $9 million.

Mr. RICHARDSON. The state concurs with that assessment?

Mr. WOODARD. I believe that's correct, from what I have been told.

The difference between the two figures is the addition of several state taxes, like severance taxes, emergency school taxes, ad valorem, conservation tax, and so forth. That's where the major difference is.

Mr. RICHARDSON. I think my colleague mentioned that opinion in West Virginia that invalidates, I think, that position that the solicitor general talked about in terms of precedent.

I am concerned that the statement is made that S. 1272 implies that the state has an inherent right to these monies, while in fact this award is at the discretion of the Federal Government.

I am concerned about that, but hopefully we can work that out.

Senator BINGAMAN. Congressman Lujan, did you have some questions?

Mr. LUJAN. Well, just one, and one of the things that I have been concerned about is that we look at this bill kind of like a milk cow and see how much milk we can get out of it.

We originally started talking about $8 million or $9 million that we had to take out of the Federal Treasury for this, and then the state said no, no, we want $50 million, and immediately we all jumped at $50 million without any kind of justification of what that figure is.

Does the Department of the Interior have a double-check on that to see that $50 million is a proper figure? Because if not, we're just going to milk this thing forever, you know, $100 million, $190 million for roads, maybe $50 million isn't going to kind of please someone, we have got to get maybe $90 million more, or whatever.

I have been concerned and I have voiced my concern to the delegation before that we not look at this as just a cow out there ready to be milked.

Do you have some figures to substantiate that $50 million?

Mr. WOODARD. We have some information furnished to us by the state. We have not double-checked those figures, Congressman.

Senator BINGAMAN. All right. Let me again thank you, Larry, and thank all the members of this panel. I think we have got some excellent testimony here.

If you would go ahead and take a seat within the audience, I would like to invite the state panel to come forward and give their testimony.

I am not sure we will have time to ask questions before we break for lunch, but Governor Garrey Carruthers, the Attorney General, Hal Stratton, Bob Hawk, State Representative, Bob Light, State Representative, Mary Ann Watts, the State Police Administrator, Bob Neill, Lokesh Chaturvedi, and Jim Channell.

We will take about five minutes here, while we get these lines revised around.

[Short recess.]

Senator BINGAMAN. All right. Let's get started again here, and as I understand it, we have got a long list of state witnesses.

What I would like to try to do, if we can, is have each of the witnesses summarize their testimony. I said at the very first of the hearing that your full statement will be included in the record.

If each of you can summarize your statement, that would be greatly appreciated.

What I would like to try to do before we break for lunch is to get as many of these statements on the record as we can, and if we have some time, ask questions as well, but I would like to stop shortly after 12:00 o'clock.

I know that some of the members of the panel here have to break for lunch and have other commitments.

Our first witness is Gov. Garrey Carruthers, who is, of course, the Governor of the State of New Mexico, and after him, Tom Bahr.

Governor Carruthers, we are very pleased to have you here and we appreciate your patience in listening.

Before the Governor begins his testimony, could all of the folks in the back of the room, could all the folks who are standing and talking in the back of the room please take a seat or retire to the outer lobby.

All right. We appreciate it very much.

Why don't you go right ahead, Governor.

STATEMENT OF HON. GARREY CARRUTHERS, GOVERNOR, STATE OF NEW MEXICO, ACCOMPANIED BY DR. TOM BAHR AND DEWEY LUNDSBURY

Governor Carruthers. Thank you very much, Mr. Chairman.

It is a pleasure to join the Senate Committee on Energy and Natural Resources for this very important discussion.

I do have with me Dr. Tom Bahr, who is Secretary of Energy and Minerals and Natural Resources, and Mr. Dewey Lundsbury, who is Secretary of Highways and Transportation, and they will be pleased to answer any questions you might have about their areas of responsibility.

I have submitted my testimony for the record and I would like to just summarize it briefly.

As Governor of New Mexico, I strongly support Senate Bill 1272, which provides for the permanent withdrawal of public lands for the Waste Isolation Pilot Project.

As Assistant Secretary of the Department of Interior in the early 1980s I was involved with the Waste Isolation Pilot Project and was involved with the temporary withdrawal of lands.

I felt then as I feel now, that it is an extremely important national project and it's an extremely important New Mexico project, and I believe we should move on with this legislation as quickly as we possibly can.

I would suggest to you there are some considerations that we would ask for, and some of those considerations are included in the legislation.

Item No. 1, very simply, as I listened to the testimony this morning, I detected that this is of great scientific consequence, what we do in this particular laboratory.

A rather simple change to the legislation which I would respectfully request that you consider is that we change the name of the Waste Isolation Pilot Project to demonstrate the scientific endeavor that is underway in this particular area.

I particularly think it would be nice if you would change the name to the Delaware Basin National Laboratory, very simply because we are looking at the prospect of a safe repository of nuclear byproducts in this particular environment. As has been stated a number of times, this is the first and only facility that does that.

It was initially designed to be a research and development facility. The determination to make it a repository is yet to come, and as a consequence, we believe that a number of scientists from all over the world will visit this laboratory over the next few years and determine how it is that we safely deposit these kinds of nuclear by-products in this particular plant.

So we respectfully request that you might consider changing that name to reflect the research and development aspects of the laboratory and we can join our other two great laboratories, Sandia and the Los Alamos Laboratory, in a front line of nuclear considerations.

Second, I would like to reaffirm in the language in the bill that we need compensation for the taxes and royalties and bonus revenues that have been foregone.

I just indicated to Congressman Lujan it's amazing what an attitude adjustment would occur when you move from the Department of Interior to the Governorship of New Mexico.

I have made that attitude adjustment rather comfortably, and we are seeking $50,456,167, to be precise, for compensation to the state for foregone revenues.

We would ask the administration to be thoughtful about this. We know the administration assigns some very high priorities to these kinds of activities. This is a very important project to the Department of Defense.

We would ask for them just to consider if it's that important to them, how important it is to us to be compensated for what we will forego as a result of the development under the conditions established in the bill.

I would like to note, as opposed to what Larry Woodard said, the Bureau of Land Management, we would preclude any further development in this particular withdrawal.

We are not asking the Bureau of Land Management to consider any other drilling or the prospects of drilling and mining in the future. We do not believe that's necessary to withdraw, but actually be for this purpose and to perpetuity and as a consequence we need compensation.

We also support very much the multiple use language in the bill, particularly as it deals with grazing land and wildlife habitat.

We are very concerned about the possible federal impacts and we support the language in the bill that suggest that the Federal Government evaluate and perhaps compensate for some of the federal impacts that might occur.

I personally support, and I believe much of the scientific community support the high-level nuclear waste experimentation and we would ask that you keep that in there.

Outside of the legislation, I would suggest that it is necessary to ensure the timely progress of the Delaware Basin National Laboratory and we continue to pursue the environmental consequences, and we are asking for continued support of the environmental evaluation group, which you will hear from in just a few minutes.

And per the Attorney General's agreement, we have agreed to establish as a condition the old EPA regulations until such time as new EPA regulations can be promulgated to fit this particular circumstance.

We have agreed also to the Nuclear Regulatory Commission's standards for containers, and we think that is especially important for the transport of these kinds of materials through the State of New Mexico.

Last, we want the $190 million for roads. We are prepared to go to DOE, to the Department of Transportation, the Department of Defense, the OMB, to whomever necessary that we must go to to make sure that these roads are constructed in New Mexico.

Once again, there's been such a high priority nationally to have these kinds of facilities. Surely it is a high priority to the National Administration to make sure that we have safe roads to transport these materials throughout New Mexico.

So I'd be happy to do that. The Secretary of Transportation has indicated to me, for your reference, that we have the capability of spending, right now, as a result of the already invested state funds, about $50 million a year over the next two to three years in this project.

The state has already assumed some of the responsibility by going into design work and to the acquisition of rights-of-way.

We are very much pleased by the Department of Energy attitude in the support of New Mexico business and we commend them for that and for their attitude for training and emergency response.

Mr. Chairman, I want to thank you for your high level of interest in this low-level activity. We encourage the passage of Senate Bill 1272. I think this region of New Mexico and the United States will be better off when this project is successfully implemented.

Thank you.

[The prepared statement of Governor Carruthers follows:]

TESTIMONY BEFORE THE

SUBCOMMITTEE ON PUBLIC LANDS, NATIONAL PARKS AND FORESTS

SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

Monday, Oct. 12, 1987

Carlsbad, New Mexico

GOOD MORNING. MY NAME IS GARREY CARRUTHERS, GOVERNOR OF THE STATE OF NEW MEXICO.

ATTENDING THIS HEARING WITH ME ARE TWO OF MY CABINET SECRETARIES ... TOM BAHR, SECRETARY OF THE DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES AND ALSO CHAIRMAN OF OUR WIPP TASK FORCE ... AND DEWEY LONSBERRY ... SECRETARY OF THE DEPARTMENT OF HIGHWAYS AND TRANSPORTATION.

ALSO PRESENT IS NEAL SCHEIDEL, DIRECTOR OF THE TECHNICAL AND EMERGENCY SUPPORT DIVISION OF THE DEPARTMENT OF PUBLIC SAFETY, WHO WILL BE PRESENTING THIS ADMINISTRATION'S EFFORTS TO PROTECT THE PUBLIC SAFETY IN CASE OF ACCIDENTS.

NEW MEXICO ATTORNEY GENERAL, HAL STRATTON, WHO NEGOTIATED ON BEHALF OF THE STATE OF NEW MEXICO THE MODIFIED STIPULATED AGREEMENT BETWEEN NEW MEXICO AND THE DEPARTMENT OF ENERGY (DOE) IS ALSO PRESENT AND WILL ADDRESS YOU MOMENTARILY.

I WOULD LIKE TO PRESENT A STATEMENT ON BEHALF OF THE STATE OF NEW MEXICO. MY COLLEAGUES AND I LOOK FORWARD TO ANSWERING ANY QUESTIONS YOU MAY HAVE.

IMPORTANCE OF WIPP

THE WASTE ISOLATION PILOT PROJECT -- WIPP -- IS AN IMPORTANT PROJECT TO THE UNITED STATES AND NEW MEXICO. WIPP WILL ADDRESS A GROWING NATIONAL CONCERN -- SAFE DISPOSAL OF TRANSURANIC WASTES -- UTILIZING STATE-OF-THE-ART TECHNOLOGIES.

DELAWARE BASIN NATIONAL LABORATORY

UNLIKE THE WASTE REPOSITORIES FOR COMMERCIAL FACILITIES IN OTHER STATES, WIPP IS DEFINED AS A SCIENTIFIC RESEARCH AND DEVELOPMENT PROJECT. THE AGREEMENT WITH DOE ALSO PROVIDES FOR EXPERIMENTATION AT THE WASTE ISOLATION PILOT PROJECT WITH HIGH-LEVEL NUCLEAR WASTE. THIS PROJECT IS AN IMPORTANT SCIENTIFIC EXPERIMENT ... AND I THINK A STRONG STATEMENT ON THE IMPORTANCE OF THIS EXPERIMENT IS TO ELEVATE THE STATUS OF WIPP TO A NATIONAL LABORATORY ... LIKE LOS ALAMOS. THEREFORE, I AM ASKING YOU TO CONSIDER CHANGING THE NAME OF WIPP TO THE DELAWARE BASIN NATIONAL LABORATORY. THE SAFE REPOSITORY OF NUCLEAR BY-PRODUCTS IS A SUBJECT MATTER THAT DESERVES EXPERIMENTATION, AND WE CERTAINLY HAVE A GREAT FACILITY, WITH APPROPRIATE ENVIRONMENTAL SAFEGUARDS WITHIN WHICH TO EXPERIMENT. THIS FACILITY IS A GLOBAL SHOWCASE OF ADVANCED TECHNOLOGY FOR THE SAFE HANDLING AND DISPOSITION OF NUCLEAR BY-PRODUCTS. WE EXPECT SCIENTISTS FROM AROUND THE WORLD TO VISIT THIS NATIONAL LABORATORY AND SEE FIRST HAND HOW NUCLEAR BY-PRODUCTS CAN BE DISPOSED OF IN A SAFE AND ENVIRONMENTALLY SOUND MANNER. THUS, THE EXPERIMENTS UNDERTAKEN AT THE DELEWARE BASIN NATIONAL LABORATORY WILL HAVE GLOBAL IMPACT ON THE SAFE DISPOSITION OF NUCLEAR BY-PRODUCTS.

S-1272

HOWEVER, I'M NOT HERE TODAY JUST TO CONSIDER THE STATUS OF THE DELAWARE BASIN NATIONAL LABORATORY ... I AM ALSO HERE TO STRONGLY SUPPORT SENATE BILL 1272 WHICH PROVIDES LEGISLATION FOR THE PERMANENT WITHDRAWAL OF THE LAND AT THE DELAWARE BASIN NATIONAL LABORATORY SITE FROM THE PUBLIC LAND LAWS. AS A FORMER ASSISTANT SECRETARY OF THE DEPARTMENT OF INTERIOR, I WAS RESPONSIBLE FOR THE RELEASE OF LAND FOR THE DELEWARE BASIN NATIONAL LABORATORY TO THE DOE. AT THAT TIME, WE RECOGNIZED THAT ULTIMATELY A PERMANENT LEGISLATIVE WITHDRAWAL WOULD BE NEEDED.

AS GOVERNOR, MY ADMINISTRATION HAS TAKEN THE NECESSARY ACTION TO TAKE THE NEXT IMPORTANT STEP. EARLY IN THE ADMINISTRATION, I BEGAN TO WORK CLOSELY WITH OUR CONGRESSIONAL DELEGATION TO DEVELOP LEGISLATION VITALLY NEEDED TO MOVE THE DELAWARE BASIN NATIONAL LABORATORY PROJECT FORWARD.

LAST APRIL I MET WITH THE NEW MEXICO CONGRESSIONAL DELEGATION, THE DOE, AND THE NEW MEXICO ATTORNEY GENERAL, TO DISCUSS THE VERY ISSUE BEFORE US. AT THAT TIME, WE ALL AGREED THAT THIS LEGISLATION WAS NEEDED. THREE ISSUES WERE RAISED DURING THE MEETING THAT NEEDED RESOLUTION: (1) COMPENSATION TO THE STATE FOR LOST MINERAL REVENUES; (2) ENVIRONMENTAL SAFEGUARDS AND (3) HIGHWAY FUNDING.

THE BILL INCLUDES MONETARY COMPENSATION IN THE AMOUNT OF $50 MILLION TO REIMBURSE THE STATE FOR TAXES, ROYALTIES AND BONUS REVENUES THAT WOULD BE LOST BECAUSE OF A PROHIBITION ON OIL AND GAS DEVELOPMENT UNDER LANDS WITHDRAWN BY THIS LEGISLATION. THE ISSUE OF ENVIRONMENTAL SAFEGUARDS WAS SATISFACTORILY RESOLVED IN THE MODIFIED STIPULATED AGREEMENT NEGOTIATED BY THE ATTORNEY GENERAL AND ENTERED INTO BETWEEN THE STATE AND THE DOE. THE ISSUE OF HIGHWAY FUNDING IS ADDRESSED IN THE AGREEMENT WITH DOE AGREEING TO MAKE A GOOD FAITH EFFORT TO ASSIST THE STATE IN OBTAINING THE 190 MILLION DOLLARS NEEDED; HOWEVER, THIS ISSUE REMAINS UNRESOLVED.

COMPENSATION

OF GREAT CONCERN TO NEW MEXICO IS THE ISSUE OF FAIR AND ADEQUATE COMPENSATION TO OUR STATE FOR REVENUES LOST BY REASON OF THIS WITHDRAWAL. THE AMOUNT OF COMPENSATION IN THE BILL ... SOME $50 MILLION TO BE PAID OVER A FIVE-YEAR PERIOD ... WAS ARRIVED AT THROUGH A DETAILED ANALYSIS OF THE ROYALTIES, BONUSES AND TAXES THAT WOULD OTHERWISE HAVE BEEN GENERATED FROM THE 14 SECTIONS (8,960 ACRES) OF FEDERAL LAND WITHIN THE TARGETED DELAWARE BASIN NATIONAL LABORATORY WITHDRAWAL AREA. I SINCERELY BELIEVE THE ESTIMATED AMOUNT OF COMPENSATION THAT WE ARE SEEKING ON BEHALF OF THE STATE OF NEW MEXICO IS BOTH APPROPRIATE AND REASONABLE.

IN APRIL OF THIS YEAR I SENT A LETTER TO THE HONORABLE JOSEPH R. SKEEN ADDRESSING OUR RATIONALE FOR THE AMOUNT OF COMPENSATION. I WOULD LIKE A COPY OF THIS LETTER TO BE INCLUDED IN MY TESTIMONY AS PART OF THE RECORD.

MULTIPLE USE

THIS BILL ALSO PROVIDES FOR MULTIPLE USE MANAGEMENT OF THE LANDS, TO INCLUDE GRAZING, HUNTING AND TRAPPING, WILDLIFE HABITAT, THE DISPOSAL OF SALT TAILINGS REMAINING ON THE SURFACE, AND MINING. THIS LANGUAGE ADEQUATELY ADDRESSES THE MULTIPLE USE CONCERNS OF OUR ADMINISTRATION.

ENVIRONMENTAL CONCERNS

SINCE THE INCEPTION OF THE DELAWARE BASIN NATIONAL LABORATORY ENVIRONMENTAL CONCERNS HAVE BEEN OF UTMOST IMPORTANCE ON THE MINDS OF ALL NEW MEXICANS. I AM HERE TODAY TO TELL YOU THAT HEALTH, SAFETY AND THE ENVIRONMENT ARE TOP PRIORITIES OF THIS ADMINISTRATION. I HAVE BEEN THOROUGHLY BRIEFED FROM A SCIENTIFIC PERSPECTIVE, AND LET ME SIMPLY SAY, I BELIEVE THIS TO BE A SAFE FACILITY. LET ME EXPAND ON THIS BELIEF.

FOR THE BENEFIT AND SAFETY OF ALL CITIZENS, AN INDEPENDENT ENVIRONMENTAL EVALUATION GROUP EXISTS WHICH IS CHARGED WITH ENSURING THAT THE DESIGN AND OPERATION OF THE FACILITY IS SAFE. THIS GROUP HAS BEEN IN EXISTENCE FOR A NUMBER OF YEARS AND WILL BE IN EXISTENCE FOR A NUMBER OF YEARS TO COME.

IT WAS BROUGHT TO MY ATTENTION THAT BECAUSE OF A RECENT FEDERAL COURT OPINION WE CURRENTLY DO NOT HAVE ENVIRONMENTAL PROTECTION ADMINISTRATION (EPA) STANDARDS RELATIVE TO THE IMPLACEMENT OF RADIOACTIVE WASTE IN THIS FACILITY. IN ANTICIPATION OF THE PROBLEM THIS SITUATION MIGHT CREATE, THE ATTORNEY GENERAL, ON BEHALF OF THE STATE OF NEW MEXICO, NEGOTIATED WITH DOE AND INCLUDED IN OUR MODIFIED STIPULATED AGREEMENT A CONDITION THAT THE OLD EPA REGULATIONS BE OPERATIVE UNTIL NEW REGULATIONS ARE PROMULGATED. THEREFORE, I AM FULLY SATISFIED WITH THE ENVIRONMENTAL RESULTS OF THE MODIFIED STIPULATED AGREEMENT.

TRANSPORTATION OF HAZARDOUS MATERIALS

A MAJOR CONCERN OF ALL IS PROVIDING FOR A SAFE MEANS OF TRANSPORTATION OF THE WASTES FROM VARIOUS POINTS IN THE UNITED STATES TO THE DELAWARE BASIN NATIONAL LABORATORY. I RECEIVED ASSURANCE EARLIER THIS YEAR THIS WOULD BE THE CASE, WHEN AN AGREEMENT WAS ANNOUNCED BY THE DOE WHICH REQUIRED THE CARRYING CONTAINERS TO MEET NUCLEAR REGULATORY COMMISSION STANDARDS.

ROADS

ANOTHER CONCERN OF NEW MEXICANS IS THAT OUR ROADS AND HIGHWAYS PROVIDE FOR BY-PASSES AROUND MAJOR POPULATION CENTERS. WE VITALLY NEED $190 MILLION FOR THE FUNDING OF BY-PASSES IN CARLSBAD, HOBBS, ARTESIA, ROSWELL, SANTA FE AND THE LOS ALAMOS ALTERNATE ROUTE.

WE HAVE MADE A START BY RECEIVING A COMMITMENT FROM THE DOE. IN THE MODIFIED STIPULATED AGREEMENT THEY WILL MAKE A GOOD FAITH EFFORT TO ASSIST IN OBTAINING THE NECESSARY FUNDING. I HAVE BEEN ADVISED THAT IN THE PAST DOE HAS BEEN LESS THAN AGGRESSIVE IN THIS REGARD. OUR CONGRESSIONAL DELEGATION, AND SENATOR DOMENICI IN PARTICULAR, HAS HAD TO HANDLE THIS TASK ALONE AND I AM GRATEFUL FOR THEIR HARD WORK. I WOULD EXPECT THE SECRETARY OF ENERGY TO WORK DIRECTLY WITH THE SECRETARY OF TRANSPORTATION TO HAVE INCLUDED IN THE DEPARTMENT OF TRANSPORATION'S BUDGET REQUEST TO THE CONGRESS, THE FUNDS NEEDED TO FINISH THESE ROAD PROJECTS.

TRAINING AND EMERGENCY RESPONSE

ANOTHER CONCERN ... TRAINING AND EMERGENCY RESPONSE ... IS PRESENTLY BEING ADDRESSED BETWEEN THE STATE AND THE DOE. IN FACT, DOE IS PROVIDING SOME $170 THOUSAND IN DIRECT FUNDS AND $250 THOUSAND IN IN-KIND FUNDS OVER THE NEXT TWO YEARS TO FACILITATE TRAINING PROGRAMS IN NEW MEXICO RELATING TO EMERGENCY RESPONSE. OUR DEPARTMENT OF PUBLIC SAFETY STANDS READY TO FORMULATE AND IMPLEMENT ADEQUATE AND SAFE TRAINING PROGRAMS FOR AN EMERGENCY RESPONSE. NEAL SCHEIDEL, DIRECTOR OF THE TECHNICAL AND EMERGENCY SUPPORT DIVISION OF THE DEPARTMENT OF PUBLIC SAFETY, WILL ADDRESS THE STATE'S EFFORT TO PROVIDE FOR TRAINING AND EMERGENCY RESPONSE IN HIS STATEMENT.

DELAWARE BASIN NATIONAL LABORATORY-RELATED BUSINESS OPPORTUNITIES

I AM ENCOURAGED WITH THE DELAWARE BASIN NATIONAL LABORATORY-RELATED BUSINESS AND EMPLOYMENT OPPORTUNITIES INCLUDED IN THE LEGISLATION. BUSINESS AND EMPLOYMENT OPPORTUNITIES THAT ARE CONDUCIVE TO NEW MEXICO ... PARTICULARLY IN LEA AND EDDY COUNTIES ... ARE INCLUDED IN THE BILL.

THE DELAWARE BASIN NATIONAL LABORATORY PROJECT IS IMPORTANT TO THE ECONOMIES OF SOUTHEASTERN NEW MEXICO. OVER 600 PEOPLE ARE EMPLOYED HERE. THE DOE IS SPENDING OVER $10 MILLION IN NEW MEXICO THIS FISCAL YEAR ON THE DELAWARE BASIN NATIONAL LABORATORY ... OF WHICH $5.4 MILLION WILL BE SPENT AT THE FACILITY. CONTRACTS HAVE ALREADY BEEN PLACED FOR OVER $35 MILLION WITH NEW MEXICO FIRMS TO DATE. THE TRUPACT CARRYING CONTAINER ASSEMBLY FACILITY WILL BE LOCATING IN CARLSBAD. THE DEPARTMENT OF ENERGY HAS CONSULTED WITH NEW MEXICO BUSINESS FIRMS TO ACQUAINT THEM WITH THE

PROCUREMENT AND BIDDING PROCESS SO THEY CAN PRESENT COMPETITIVE BIDS. WE ARE HOPEFUL AN IN-STATE FIRM WILL RECEIVE THE TRANSPORTATION CONTRACT AND HAVE PLEDGED OUR SUPPORT TO THAT END.

COOPERATION

THE STATE CONTINUES TO BE ENCOURAGED WITH THE "HIGH LEVEL" OF COOPERATION AND DIALOGUE WITH OFFICIALS OF THE DOE, OUR STATE'S CONGRESSIONAL DELEGATION AND THE SEVERAL FEDERAL, STATE AND INTERESTED REPRESENTATIVES ASSOCIATED WITH THE DELEWARE BASIN NATIONAL LABORATORY. THE PROGRESS WE'VE MADE TO DATE IS TESTIMONY TO THE FACT THAT BY WORKING TOGETHER AND ADDRESSING OUR MAJOR CONCERNS IN A RESPONSIBLE AND TIMELY MANNER, WE CAN MAKE A SIGNIFICANT CONTRIBUTION TO THE SCIENTIFIC KNOWLEDGE AND TREMENDOUS BENEFIT OF EXPLORING AND RESOLVING CHALLENGES PRESENTED TO US BY THE SAFE HANDLING, TRANSPORTATION AND STORAGE OF TRANSURANIC WASTE.

4/30 HO 1568

GARREY CARRUTHERS
Governor

OFFICE of the GOVERNOR
State of New Mexico
Santa Fe 87503

April 27, 1987

Honorable Joseph R. Skeen
United States Congressman
1007 Longworth House Office Building
Washington, D.C. 20515

Dear Representative Skeen:

This letter is in regard to the amount of compensation due the State of New Mexico for the loss of mineral revenues resulting from the withdrawal of federal lands at the Waste Isolation Pilot Plant (WIPP) site. By our estimates, it appears that the State will forego at least $50,456,167 in royalties, bonuses and taxes that would otherwise have been generated from the 14 sections (8,960 acres) of federal land within the targeted WIPP withdrawal area. The following narrative and attached spreadsheet provide detailed information on how that compensation estimate was derived.

Amount: $50,456,167

Background/Methodology: In calculating the preceding amount, the U.S. Bureau of Land Management's (BLM) constant-dollar estimates of risked royalties and bonuses from each of 22 spacing units (i.e., oil/gas wells) on federal lands within the WIPP withdrawal area were used. These estimates are the same as those that were generated by the BLM to calculate the risked present value royalty figures provided you in a letter dated March 16, 1987, from New Mexico State Director Larry Woodard. It is my understanding that the BLM used a probabilistic constant-dollar model to derive the risked royalty and bonus estimates.

Next, an estimate of foregone tax revenues was calculated by multiplying the BLM's constant-dollar risked royalty total for each spacing unit by the currently effective tax rate for each of six State oil/gas taxes. The effective tax rate was adjusted, of course, so that the tax rate applied to the royalty totals was in proportion to the ratio of the royalty rate to the total risked royalties. State taxes included in the calculation were the oil/gas severance tax, the emergency school tax, the conservation tax, the ad valorem production tax, the production equipment ad valorem tax, and the natural gas processors tax. Foregone gross receipts tax revenues also were factored in by assuming a development cost of one million dollars per each of the 22 wells and multiplying by the currently effective rate of 4.75 percent.

Then the BLM's assumption regarding the projected year that the current gas supply bubble is likely to end was changed. The BLM had assumed the gas bubble would end in 1998 -- an assumption that is not in line with current industry forecasts or with the most recent U.S. Department of Energy projection (i.e., 1-4 years from now) published in their Annual Energy Outlook. The gas bubble assumption impacts directly the "absorbtion rate" or the rate at which each well comes into production and is absorbed in the market; consequently, the total foregone revenue estimate is ultimately affected. It is therefore imperative that the most reasonable and accurate projection be utilized. Thus, we assumed the gas supply bubble would end in 1990, a date which falls within the above-mentioned DOE projection.

Finally, because the estimates of total risked royalties, bonuses, and taxes were in constant dollars, a present value adjustment had to be performed. For this adjustment to 1987 dollars, a rate of five percent (5%) was used. The BLM had used a net present value adjustment rate of twelve percent (12%) for the estimates provided you in the referenced March 16, 1987 letter; however, because federal mineral leasing revenues are "public" revenues, a lower "social" discount rate such as five percent should have been used. The estimates of risked royalties, bonuses and taxes, adjusted to net present value, were then totalled.

I sincerely believe that the estimated amount of compensation (or its equivalent in federal land) that we are seeking on behalf of the State of New Mexico and its citizens is appropriate and reasonable. Indeed, our compensation figure includes only those estimated foregone revenues from the oil and gas resources underlying the WIPP site; foregone revenues from potash and other minerals known to occur at the site were not calculated and included. Please let me know if I can provide additional information or clarification regarding any of the preceding materials.

Sincerely,

Garrey Carruthers
Governor

cc: Hon. Jeff Bingaman
Hon. Pete V. Domenici
Hon. Manuel Lujan, Jr.
Hon. Bill Richardson

RISKED OIL/GAS ROYALTIES, BONUSES, AND TAXES FROM FEDERAL LANDS AT WIPP

Well	Year Absorbed	Risked Royalties* ($constant)	Risked Bonuses* ($constant)	Risked Royalties and Bonuses* ($constant)	Risked Taxes** ($constant)	Risked Royalties, Bonuses & Taxes ($constant)	No. of Years from 1987	Net Present Value*** of Taxes ($1987)	Net Present Value*** of Royalties, Bonuses ($1987)
A1	1982	$928,880	$2,605,446	$3,534,326	$547,609	$4,081,935	5	$698,903	$4,510,795
A2	1983	928,880	2,605,446	3,534,326	547,609	4,081,935	4	665,622	4,295,995
A3	1984	928,880	2,605,446	3,534,326	547,609	4,081,935	3	633,926	4,091,424
A4	1986	928,880	2,605,446	3,534,326	547,609	4,081,935	1	574,989	3,711,042
	1987								
B5	1988	774,186	1,994,782	2,768,968	464,322	3,233,290	1	442,211	2,637,112
B6	1989	774,186	1,994,782	2,768,968	464,322	3,233,290	2	421,154	2,511,536
B7	1990****	774,186	1,994,782	2,768,968	464,322	3,233,290	3	401,099	2,391,939
B8	1990	774,186	1,994,782	2,768,968	464,322	3,233,290	3	401,099	2,391,939
B9	1991	774,186	1,994,782	2,768,968	464,322	3,233,290	4	381,999	2,278,037
B10	1991	774,186	1,994,782	2,768,968	464,322	3,233,290	4	381,999	2,278,037
B11	1991	774,186	1,994,782	2,768,968	464,322	3,233,290	4	381,999	2,278,037
B12	1992	774,186	1,994,782	2,768,968	464,322	3,233,290	5	363,808	2,169,559
B13	1992	774,186	1,994,782	2,768,968	464,322	3,233,290	5	363,808	2,169,559
B14	1992	774,186	1,994,782	2,768,968	464,322	3,233,290	5	363,808	2,169,559
B15	1992	774,186	1,994,782	2,768,968	464,322	3,233,290	5	363,808	2,169,559
B16	1993	774,186	1,994,782	2,768,968	464,322	3,233,290	6	346,484	2,066,247
C17	1993	339,365	332,040	671,405	230,214	901,619	6	171,789	501,013
C18	1993	339,365	332,040	671,405	230,214	901,619	6	171,789	501,013
C19	1994	339,365	332,040	671,405	230,214	901,619	7	163,609	477,155
C20	1994	339,365	332,040	671,405	230,214	901,619	7	163,609	477,155
C21	1995	339,365	332,040	671,405	230,214	901,619	8	155,818	454,433
C22	1995	339,365	332,040	671,405	230,214	901,619	8	155,818	454,433
Total Risked Taxes								$8,169,148	
Total Risked Royalties and Bonuses									$46,985,577
New Mexico's Share of Total Risked Royalties and Bonuses*****									$42,287,019
TOTAL COMPENSATION DUE THE STATE OF NEW MEXICO									$50,456,167

* These numbers were generated by the New Mexico State Office of the U.S. Bureau of Land Management (BLM) in March 1987.

** State taxes (rate) include the oil/gas severance tax (.0375), the emergency school tax (.0315), the conservation tax (.0019), the ad valorem production tax (.0007), the production equipment ad valorem tax (.0001), the natural gas processors tax (.0045), and the gross receipts tax (.0475).

*** A rate of five percent (5%) was used for this net present value adjustment.

**** End of gas supply bubble. Absorption rate picks up dramatically.

***** Based on ninety percent (90%) of Total Risked Royalties and Bonuses; it is important to note that the BLM used this same percentage in calculating the estimates provided to Representative Skeen in a letter dated March 16, 1987.

Senator BINGAMAN. Thank you very much.

Let me ask if, on the witness list that I was given by the staff in preparation for the hearing, they indicated that Tom Bahr also intended to testify.

You have spoken for him, except for the answering of questions.

Governor CARRUTHERS. That is true, Mr. Chairman. If the questions particularly deal with the evaluation, I would ask Tom Bahr to respond to those questions.

Senator BINGAMAN. OK. Thank you very much.

Next is our Attorney General, Hal Stratton. We are very pleased to have you here.

STATEMENT OF HAL STRATTON, ATTORNEY GENERAL, STATE OF NEW MEXICO

Mr. STRATTON. Thank you, Mr. Chairman. It is a pleasure to be here, and an honor, and we appreciate the opportunity to testify before the committee.

I am going to summarize. The Governor has talked about a few of the things already that we were involved in.

When we entered office January 1, it was presumed that an item the administration had as far as things that needed to be negotiated with the stipulated agreement, any agreement for consultation and cooperation, and I began negotiating with the DOE.

I adopted this agenda. That did not go unnoticed by some of my friends here in Carlsbad and some of my more conservative friends, but let me tell you that through the negotiations we took each and every item that they were interested in and negotiated an agreement with DOE on those items.

The first thing we looked into was the money, and we did get an agreement out of DOE regarding the $190 million for the various relief roads.

I am assuming, Mr. Chairman, that you all have a copy of that agreement. It talks about the good faith efforts to be used by the DOE as far as helping us obtain that money.

I know there is some concern on each member sitting here, in part, regarding what DOE has done as far as the $58 million and what they have not done, and we tried to, quite frankly, tie it down just as much as we could.

So that was the first item that we adopted and that we negotiated.

We then got into the environmental questions. First was the drilling at the WIPP site, the non-WIPP drilling. You have agreed to prohibit in perpetuity all non-WIPP mining and drilling at the WIPP site.

As you may recall, the first modification of the agreement allowed slant drilling below the 6,000-foot level from outside the site.

Second, the DOE agreed to dispose of the salt tailings in an environmentally acceptable manner.

Third, DOE agreed to use combination barriers to comply with EPA standards to isolate radioactive waste after disposal.

Fourth, the DOE agreed to comply with regulations of the U.S. Department of Transportation and the Nuclear Regulatory Com-

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mission when transporting waste to WIPP, and also to use only those shipping packages that are certified by NRC.

I might add these are not just TRUPACT. Any container that carriers waste to the WIPP site must be certified by NRC, whether it is TRUPACT or regardless of what name they give to it in the future.

And finally, we negotiated the agreement to comply with the EPA regulations as far as the WIPP site is concerned.

Mr. Chairman, that pretty much concludes our involvement. At that point, we consulted with the Governor and Mr. Bahr and got together and signed the agreement with them and that's where we are now.

Thank you.

Senator BINGAMAN. Thank you very much.

The next witness is State Representative Robert Hawk, who is the Chairman of the Legislative Interim Committee on Radioactive Waste.

We are very pleased to have you here, Bob.

STATEMENT OF ROBERT HAWK, STATE REPRESENTATIVE FROM NEW MEXICO

Mr. HAWK. Thank you very much, Senator.

Mr. Chairman and Members of the New Mexico Delegation, I am very happy to be here to represent the Radioactive and Hazardous Materials Committee.

This committee was established in 1978 by the State Legislature, being specifically an oversight committee for WIPP. Today, its function has broadened considerably to where we are spending a lot more time on hazardous materials, which in the eyes of many of us, we feel needs more attention than it is getting today.

We are spending our time in that area more than we are on WIPP, though WIPP is still one of our functions.

We have passed a resolution in August, which you have before you now, and which I mailed to you at the time we passed it, and most of you, I am sure, have read it.

I am not going to go over it again, but it is the basis of why I am here today. At the time we passed this, we thought we were going to have a Congressional hearing, so we wanted to be on record as supporting these bills that have been introduced in the Congress.

The withdrawal of land for the uses and purposes that DOE has designed has been part of this function now for almost 20 years. It has always been in the picture. It is nothing new. It is just one more of those things that had to be done.

We feel that it is something that we need to get behind us so that this project can go on. It still a pilot project. It is still in the research and development mode, and it must be able to continue if we are going to find and attain a good solution to the cycle, the nuclear fuel cycle that is so necessary in this country, and the world, as far as that goes.

It is not just something—it is not a political thing. It is a scientific project. It is part of the total nuclear picture in this country, and as demonstrated by previous witnesses, people from all over the world have been coming here and they will continue to come here.

I think it is important for me just to emphasize a couple of points. We are talking about health of individuals, the whole WIPP Project is an environmental health project.

It has been decided by the experts that the storage of nuclear waste on the surface of the ground is not desirable, so we have gone in for some permanent sort of depository. This happens to be a geological depository, and I think it is important that we proceed with it. I think this legislation is necessary.

One other thing that I am going to add in, and I am sure the committee would agree with it, we didn't realize it was going to be a subject that was going to be under consideration, and that is the high-level waste experiments.

I think it's very important that those experiments be allowed to continue, and I think it would be a waste of the taxpayers' dollars if we restricted, if Congress should restrict high-level waste experiments.

We will never have another opportunity in many years to do these if we don't do them right now. They are retrievable. There has been no breach of that promise. I have not seen any. I have talked in private to many individuals, I have seen no breach of that.

I would urge, I would urge this delegation to make sure that that experimentation is allowed to continue. I think it is necessary to the research and development community of this land.

With those words, Mr. Chairman, the committee urges the support of this committee and of Congress in getting this land withdrawal bill passed.

Thank you again for allowing us to testify today, and I will thank you again.

[The resolution follows:]

A RESOLUTION

of the

RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE

WHEREAS, the Waste Isolation Pilot Plant, located in southeastern New Mexico, is authorized under Public Law 96-164 as a defense activity for the express purpose of providing a research and development facility to demonstrate the safe disposal of radioactive waste resulting from defense activities and defense programs of the United States government; and

WHEREAS, in accordance with the Agreement for Consultation and Cooperation between the United States department of energy and the state of New Mexico, the Waste Isolation Pilot Plant is intended to include receipt, handling and permanent disposal of defense transuranic waste and temporary storage for experimental purposes of a limited amount of high-level defense waste; and

WHEREAS, the proposed federal legislation, the WIPP Land Withdrawal Act of 1987 currently under consideration by the United States congress, would transfer jurisdiction over the land at the Waste Isolation Pilot Plant from the United States secretary of interior to the United States secretary of energy; and

WHEREAS, the construction, operation, repair, maintenance, shutdown, monitoring, post-decommissioning control and other authorized activities associated with the mission of the Waste Isolation Pilot Plant by the United States secretary of energy is very important to the

safety, health and general welfare of the people of the state of New Mexico and the United States; and

WHEREAS, both S. 1272 and H.R. 2504 require the United States secretary of energy to consult with the state of New Mexico in the development of a management plan for the lands and resources withdrawn and reserved, including management plans for grazing, hunting, wildlife habitat and mining; and

WHEREAS, the proposed federal legislation authorizes the payment of $10,091,233 in lieu of mineral royalties in fiscal year 1988 and for each of the four subsequent fiscal years by the United States secretary of interior to the state of New Mexico which is beneficial and equitable for the state; and

WHEREAS, the proposed federal legislation requires the United States secretary of energy to encourage business and employment opportunities related to the Waste Isolation Pilot Plant that will be beneficial to the state of New Mexico; and

WHEREAS, the proposed WIPP Land Withdrawal Act of 1987 requires the United States secretary of energy to submit to the United States congress and the state of New Mexico a plan for active and passive institutional controls for managing the facility and the land withdrawn after decommissioning; and

WHEREAS, both the senate and house bills before congress require the United States secretary of energy, prior to conducting any high-level waste experiments or receipt of any high-level wastes, to publish a report, for public dissemination in the state of New Mexico, de-

scribing in detail the proposed experiments with high-level waste at the Waste Isolation Pilot Plant; and

WHEREAS, the proposed legislation requires the United States secretary of energy to demonstrate that the Waste Isolation Pilot Plant meets the applicable environmental standards for the disposal of radioactive waste prior to receiving more than fifteen percent by volume of the transuranic waste capacity of the Waste Isolation Pilot Plant;

NOW, THEREFORE, BE IT RESOLVED BY THE RADIOACTIVE AND HAZARDOUS MATERIALS COMMITTEE that the United States congress is urged to give favorable consideration to both S. 1272 and H.R. 2504, known as the WIPP Land Withdrawal Act of 1987, in order to effect the withdrawal and reservation of approximately 10,240 acres of public land in Eddy county, New Mexico for the safe construction, operation, management and decommissioning of the Waste Isolation Pilot Plant; and

BE IT FURTHER RESOLVED that this resolution shall be transmitted to all members of the New Mexico congressional delegation and to the office of the governor of New Mexico and to the United States secretary of energy.

Passed unanimously by the radioactive and hazardous materials committee on August 27, 1987.

Robert M. Hawk

REPRESENTATIVE ROBERT M. HAWK
Chairman

.68785.1

Senator BINGAMAN. Thank you very much.

Let me now call on Representative Robert Light, who is State Representative from Carlsbad and this area, who has been actively involved in this issue and serves on key committees that deal with it in the State Legislature.

Bob, we are glad to have you here.

STATEMENT OF ROBERT S. LIGHT, STATE REPRESENTATIVE FROM NEW MEXICO

Mr. LIGHT. Thank you, Mr. Chairman.

I have been involved with the WIPP process since the county commission, during 4 years, in 1979, then I was elected to the State Legislature in 1985 and have been very interested in seeing this project move forward.

I would like to make this statement in reference to your bill, joined by Senator Domenici, it will be identical to the house bill that will be forthcoming, and hopefully that it will move forward.

My statement is this, and I just want to point out the fact that I did this at 2:30 last night. I normally don't make prepared statements, but I made this last night, and I would like to read what I put down in my own thoughts.

Senate bill 1272, it's more than land withdrawal. It is but one step on the long road to energy sufficiency for the greatest nation on the globe.

Our way of life, our standard of living is tied to the extensive use of energy. As a nation of 200 million, part of a global population of 4 billion plus, maybe 5 billion, this is more than our share.

We consume approximately one-third of the total hydrocarbons produced on this globe, and we probably consume more than our share, but I say it's what we can afford.

To fuel our consumption today we must import some 40 percent of our crude oil, and by the early 1990s this figure could exceed 50 percent.

Now, let me explain at this point that I do chair the Energy, Natural Resources and Extractive Industries Committee, and we are very concerned about the total energy of the nation, and especially as it pertains to New Mexico.

I'll go on with my testimony.

We have become a trailing nation, not a leader in the nuclear power cycle. Today, Japan supplies some 90 percent of its electricity from the nuclear cycle; France, some 80 percent; this country, less than 20.

It is time again we regain leadership and take the steps necessary to become less dependent on an area of the world where today we protect the free world's supply of energy with our Navy in hostile foreign waters.

Now, with this brief statement of support, I'd like to tell you that there are other legislators in the audience, and I'd like to introduce them, who support this same position.

Out here we have Senator Marvin Watts from Eddy County, would you stand up, Senator.

We have Representative Dan Berry from Lea County. We have Representative Bob Wallach from Lea County.

In addition to them, I have verbal commitment—and Senator Harvey from Lea County. Please stand, Senator Harvey.

In addition to those present, we had the verbal commitment of eleven of the 112 legislators, including Gene Samberson, Billy McGibben, Joe Stell, Bud Hebert, Bob Corn and Dick Knowles, all from Eddy, Lea and Chavis Counties.

And I would like to say that we support the Bingaman, Domenici Senate Bill 1272 for public land withdrawal in Eddy County.

Again, it is only a step on that long road to self-sufficiency in this energy cycle.

Thank you.

[The prepared statement of Mr. Light follows:]

A STATEMENT BY ROBERT S. LIGHT
AT THE LAND WITHDRAWL HEARING IN CARLSBAD, NEW MEXICO
OCTOBER 12, 1987
CONCERNING THE BINGAMAN-DOMENICI SENATE BILL 1272

SENATE BILL 1272 - IT'S MORE THAN LAND WITHDRAWL. IT IS BUT ONE STEP ON THE LONG ROAD TO ENERGY SUFFICIENCY FOR THE GREATEST NATION ON THE GLOBE. OUR WAY OF LIFE AND OUR STANDARD OF LIVING IS TIED TO THE EXTENSIVE USE OF ENERGY. AS A NATION OF 200 MILLION - PART OF A GLOBAL POPULATION OF 4 BILLION PLUS- WE CONSUME APPROXIMATELY ONE-THIRD OF TOTAL HYDROCARBONS PRODUCED. SOME SAY THIS IS MORE THAN OUR SHARE. I SAY THIS IS WHAT WE CAN AFFORD TO PURCHASE. TO FUEL OUR CONSUMPTION TODAY WE IMPORT SOME FORTY PERCENT OF OUR CRUDE OIL; BY THE EARLY 1990'S THIS FIGURE COULD EXCEED 50%.

WE HAVE BECOME A TRAILING NATION NOT THE LEADER IN THE NUCLEAL POWER CYCLE. TODAY JAPAN SUPPLIES SOME NINETY PERCENT OF ITS ELECTRICITY FROM THE NUCLEAR CYCLE, FRANCE SOME 80% - THIS CONUTRY - LESS THAN 20%. IT IS TIME WE AGAIN REGAIN LEADERSHIP AND TAKE THE STEPS NECESSARY TO BECOME LESS DEPENDENT ON AN AREA OF THE WORLD WHERE TODAY WE PROTECT THE FREE WORLD'S SUPPLY OF ENERGY WITH OUR NAVY IN HOSTILE FOREIGN WATERS.

IT IS WITH THIS SHORT STATEMENT THAT I, ALONG WITH MY COLLEAGUES -

SUPPORT THE BINGAMAN-DOMENICI SENATE BILL 1272 FOR PUBLIC LAND WITHDRAWL IN EDDY COUNTY. AGAIN, IT IS ONLY A STEP ON THAT LONG ROAD TO SELF-SUFFICIENCY IN THE ENERGY CYCLE.

NOW A FEW COMMENTS ON THE BILL ITSELF:

1)COMPENSATION TO NEW MEXICO - LOSS OF FUTURE INCOME

2)MULTIPLE USE - GRAZING, HUNTING,WILDLIFE AND MINING

3)EMPLOYMENT RELATED ISSUES

4)IMPACT ASSISTANCE

5)TWO HIGH LEVEL EXPERIMENTAL REQUIREMENTS

6)FIFTEEN PERCENT RULE FOR TRANSURANIC

NOW, LET US GET THIS NATION OFF ITS KNEES DUE TO FOREIGN DEPENDENCE ON ENERGY BY PROVING TO THE WORLD WE CAN MANAGE OUR NUCLEAR CYCLE AND LEAD THE WORLD IN SAFE STORAGE OF BOTH TRANURANIC AND HIGH LEVEL WASTE.

THANK YOU.

Senator BINGAMAN. Thank you very much.

We do appreciate the presence of all the state legislators who are able to be here today. We have been in touch with many of those who were not able to be here.

Our next witness is Neal Scheidel, who is Director of Technical and Emergency Support.

We are very glad to have you here.

STATEMENT OF P. NEAL SCHEIDEL, DIRECTOR, TECHNICAL AND EMERGENCY SUPPORT, STATE EMERGENCY RESPONSE COMMISSION, STATE OF NEW MEXICO

Mr. SCHEIDEL. Thank you, Mr. Chairman.

I would like to briefly just address the state's emergency response capability and how we will bear this responsibility with responses to many incidents that could occur either at the site or along the highways getting to the site.

Back in 1983 the State Legislature passed a State Emergency Management Act. In 1984 the state plan which implements this Act was developed and basically lays out procedures, policies for responding to and containing any type of hazardous material incidents.

It basically states that the state police emergency and response officer will be the coordinating individual on site, and on the state level the state police emergency response officer will coordinate all state responses.

As I said, the only incident involving the WIPP site would be responded to in this manner.

Now, specifically, as relates to WIPP and training of emergency response officers and equipment emergency response officers, we have had discussions with DOE on what type of training should be provided, how much, and to whom.

Now, I can hopefully report that we are very close to agreement on what type and where the training should be provided.

We are approaching it in three levels, an orientation level for first responders who would contain the incident until an emergency response officer could arrive.

Also involved in this first category will be city planners, city fathers, county officials. It's an orientation course that will be given at 12 different locations along the route traveled and will be 1 day in length.

The second level would also be given primarily to individuals along the route of travel, a 3-day course for emergency response officers, keeping in mind that these individuals are already trained in response requirements and this 3-day course will be WIPP specific requirements.

The third category would involve the rather specialized training in radiological protection personnel who are already experts in radiological protection.

As I indicated, we are very close to final agreement in this area and we are on the dry-run basis next month.

In the area of equipment, we had two particular programs that are being discussed, the first one being rather sophisticated ejection

equipment, and the second one having to do with firefighting equipment.

We are not as well along in these discussions. However, the discussions are continuing and we are progressing. Some real challenges face us in the area of these materials and it's just not very specific.

The amount of materials that traverse this state are large and certainly significant in their potential. With appropriate federal and state dollars, I think we can successfully address these concerns.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Scheidel follows:]

EMERGENCY RESPONSE AND TRAINING NEEDS
WASTE ISOLATION PILOT PROJECT

DEPARTMENT OF PUBLIC SAFETY
OCTOBER 12, 1987

P. NEAL SCHEIDEL
Director Technical and
Emergency Support

Chairman, State
Emergency Response
Commission

SUMMARY

In the area of training and equipment essential to effective safeguards, policing and emergency response relating to all hazardous materials, including low-level nuclear waste, the State of New Mexico has made some significant headway in the past four years. Nonetheless, substantially more needs to be done and plans and resources to accomplish those ends are in motion under the direction of the new DPS. Included in proposed legislative bills for the coming session are user fees and other resources relating to public safety, including the specialized training needed to deal with hazardous materials. Additionally, funds for essential equipment is included as a high priority in current budget requests.

In the judgment of the DPS, the activities of the WIPP Site should not dramatically raise the level of need for overall emergency response capabilities. Such response capability is required for a variety of hazardous materials. Nonetheless, we must prudently be prepared to address incidents involving WIPP shipments.

To meet these requirements, we are confident of the support of the Governor and Legislature.

BACKGROUND

Under current legislation, New Mexico's Emergency Management Act provides the authority and guidelines to be used by emergency response personnel who may respond to an accident involving a radioactive shipment to the Waste Isolation Pilot Project (WIPP) near Carlsbad. The Act includes radioactive materials in the definition of a hazardous material. The Hazardous Material Emergency Response (HMER) Plan further regulates the appropriate actions to be taken, who is in charge, and the role of the various state agencies when an accident occurs. The State Police Chief, who is under the direct supervision of the Secretary of the Department of Public Safety, administers the provisions of the Act. Emergency response actions at a radioactive material accident would be substantially the same actions taken at most any hazardous material accident, be it an accident involving poisons, corrosives, flammables, or oxidizers.

The Emergency Management Act was passed in 1983 and the HMER plan was finalized in 1984. Since that time, State Police Emergency Response Officers have been in charge of coordinating the response actions at hazardous materials accidents. Local response agencies including fire departments, law enforcement agencies, emergency medical, health and environment, and road departments are typically involved in the response actions at hazardous material accidents.

IDENTIFICATION OF TRAINING NEEDS

Hazardous material accidents have been and will continue to be a major concern in New Mexico and the United States. Response personnel require specialized training in order to be aware of the problems they might encounter when dealing with hazardous materials. This training applies not only to State Police Emergency Response Officers and fire departments' hazardous material teams, but also to any emergency responder who might be the first on the scene at a hazardous material accident. The first responder needs to know what to do until the State Police Emergency Response Officer and other hazardous material specialists arrive.

New Mexico's HMER plan has worked well during the past four years and will continue to work if needed to respond to an accident involving a WIPP shipment. The state is well prepared for accidents from the standpoint of having a workable plan. The state is not yet fully prepared in the area of having trained response personnel.

Prior to the activation of WIPP, the state needs to insure training in hazardous material emergency response for all potential first responder personnel working along the designated routes on which the WIPP shipments will travel.

The Department of Energy has a responsibility to the state to provide some training for emergency response to accidents involving WIPP shipments. That responsibility is a valid one, and based on on-going discussions, the citizens and response personnel have every reason to expect that that responsibility will be met by the DOE.

Additionally, there are a number of catagories of other emergency response personnel and government officials who have need for some level of training in emergency response to hazardous material accidents. These catagories include but are not limited to:

State Police Patrolmen and Supervisors
State Police Radio Dispatchers
Sheriffs' Department Officers
City Police Departments' Officers
Tribal Law Enforcement
Firefighters
Emergency Medical Technicians
Civil Emergency Preparedness Staff
Environmental Staff
Motor Transportation Division Staff
Highway Department District Staff
Local Government Officials

Some of the people in these catagories would require an orientation about WIPP while others would require more in-depth training. The orientation level should satisfy the needs of a great majority of the people and might include such things as:

Designated routes
Identification of vehicles carrying radioactive waste
Identification of the containers (Trupact or similar container)
Implementation of the state's HMER plan
Security precautions
Overview of WIPP and the transportation needs/requirements

The orientation should be simple enough and short enough to reach masses of people and should be provided all along the transportation routes in New Mexico.

More in-depth training is needed for response personnel. They need to know the same things as might be included in the orientation but should also be exposed to other topics. The general curriculum to be provided for first responders should include the following:

Identification of vehicles and containers carrying radioactive waste
Designated routes for WIPP shipments
Overview of HMER Plan
Overview of general hazardous material classifications
Shipping papers, placards, and transportation regulations
Radioactive materials containers, exposure, and decontamination of RAM
Scene security and first responder actions
Incident command for first responders

The main purpose in training emergency response personnel is to condition them to make appropriate decisions. Training also will dispel fear of the unknown. There has been much scare-type information about radioactivity--the kind that hinders good decision making and results in failure to act. Failure to act can be just as bad as blindly rushing into a radioactive area.

The two types of training courses that are needed can be called **First Responder to WIPP Related Accidents** and **Incident Command for WIPP Related Accidents** for purpose of identification and to denote the general concept of the necessary and desired training. Both courses should be presented in various locations along the designated routes. The first responder course would be one day in length. The incident command course would be three days in length.

A third training course is needed for a very limited number of people, primarily those individuals from the state Radiation Protection Bureau. It would provide those staff members with training in the evaluation of

radioactive material accidents. It would be very specialized and directed to radiation experts.

The State of New Mexico and the DOE have been discussing the emergency response training needs since early 1986. The most critical need for training will be in the months before the WIPP shipments begin. There will, of course, be a continuing need for training throughout the duration of the project to insure adequate refresher training and also to provide training to new employees due to turnover in staff at emergency response agencies.

SPECIALIZED EQUIPMENT FOR EMERGENCY RESPONSE

There are some other needs that should be addressed in order to make sure that emergency response to WIPP accidents is adequate and safe for the responders and the citizens of the state.

If an accident occurs, it is necessary to evaluate the scene for possible releases of radioactivity. The DOE has this capability but an intentionally redundant and independent review capability should also exist at the state level. The logical group to do this is the State Radiation Protection Bureau. The Bureau has some equipment needs that have been presented to the DOE for funding. Discussions on this are ongoing.

There is also a request to the DOE for emergency response vehicles for fire departments for all categories of hazardous material accidents, including low-level radioactivity. The vehicles should be multi-purpose and located in strategic areas along the designated routes.

There are other equipment needs for hazardous material emergency response in New Mexico to enchance safety at any hazardous material accident, including a WIPP accident. These needs are the responsibility of state and local governments and include personal protective equipment, communications equipment and emergency response chemical data bases.

CONCLUSION

Hazardous material emergency response is a very serious concern in this state as well as the entire nation; WIPP shipments could potentially compound the situation. While they are not as serious a problem as some of the other hazardous materials that are routinely traverse the state, they are nevertheless of concern. The problems of emergency response to hazardous material accidents can be successfully addressed with sufficient funding.

Senator BINGAMAN. Thank you very much. We appreciate that.

Let me now call on Mr. Bob Neill, who is the Director of the Environmental Evaluation Group, who has had a long involvement with this and I think knows more about it than probably any of us.

Bob, we appreciate you being here.

STATEMENT OF ROBERT H. NEILL, DIRECTOR, ENVIRONMENTAL EVALUATION GROUP, ENVIRONMENTAL IMPROVEMENT DIVISION, HEALTH AND ENVIRONMENT DEPARTMENT, STATE OF NEW MEXICO

Mr. NEILL. Thank you, Mr. Chairman, and Members of the New Mexico Delegation.

With me today are Dr. James Channell and Dr. Lokesh Chaturvedi and will respond to any questions.

The EEG was created in 1978 to conduct an independent technical evaluation of the potential radiation exposure to people from the WIPP Project.

The group is neither a proponent nor an opponent of WIPP. This full-time, multi-disciplinary group is funded entirely by the Department of Energy and we represent the State of New Mexico.

Administratively, we are attached as part of the Environmental Improvement Division, which is a component of the Health and Environment Department, which is the agency primarily responsible for the protection of public health and safety.

Our office at the WIPP site has now five members. From the very beginning, we believed it was necessary to conduct our review in a way, and publish our results, to subject it to the full scientific scrutiny of others.

To date, 35 major reports have been issued in various categories, such as site characterization and transportation and performance assessment.

I have listed, Mr. Chairman, in the testimony some of the accomplishments of EEG during the years, and needless to say, those accomplishments are share with others, and we are not inferring by any means that these are solely the result of our efforts.

I have also listed specific activities that we intend or expect will occur over the next year; namely, the review of the new shipping container for the contact-handled transuranic waste as well as the design of the remote-handled transuranic waste shipping cask.

We will continue to work on our preoperational monitoring program to delineate the extent of background radiation prior to the shipment of waste, as well as other applications.

Mr. Chairman, that provides a brief summary of the statement, and I would be happy to respond to any questions.

[The prepared statement of Mr. Neill follows:]

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U. S. SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

HEARINGS ON WIPP LAND WITHDRAWAL BILL S1272

Testimony

by

Robert H. Neill

Environmental Evaluation Group
Environmental Improvement Division
Health and Environment Department

October 12, 1987

Prepared as an independent analysis for the New Mexico Health and Environment Department's Waste Isolation Pilot Plant (WIPP) oversight program under DOE Grant No. DE-FG04-86AL37

Mr. Chairman:

Thank you for the opportunity to appear here regarding EEG's technical evaluation of the WIPP Project. Dr. James K. Channell, Environmental Engineer and Dr. Lokesh Chaturvedi, Engineering Geologist are also here to help respond to any questions.

Background

The Environmental Evaluation Group was created in 1978 to conduct an independent technical evaluation of the potential radiation exposure to people from the proposed Waste Isolation Pilot Plant (WIPP) Project in southeastern New Mexico, in order to protect the public health and safety and ensure that there is minimal environmental degradation. The EEG is part of the Environmental Improvement Division, a component of the New Mexico Health and Environment Department -- the agency charged with the primary responsibility for protecting the health of the citizens of New Mexico.

The Group is neither a proponent nor an opponent of WIPP.

Staff includes a geologist, hydrologist, environmental engineer, two health physicists, quality assurance engineer, radiological monitoring expert technician, scientific liaison officer, librarian, administrative officer, and three secretaries. Our office at the WIPP Site has five staff members.

The full-time multi-disciplinary review is funded entirely by the U. S. Department of Energy through Contract DE-AC04-79AL10752 with the New Mexico Health and Environment Department.

Amounts of Radioactive Waste

WIPP is intended to eventually be a repository for permanent disposal of contact handled (CH-TRU) and remote handled (RH-TRU) transuranic waste generated from the nation's defense programs. Transuranic (greater than uranium in atomic weight) wastes contain more than 100 n Ci/g of wastes.

The waste is not fused in an insoluble glass matrix and can contain respirable sized particles up to 1% by weight. Waste is stored in conventional DOT type 17-C 55 gallon carbon steel drums or in steel boxes with a design life of 20 years. WIPP is also scheduled to contain a limited amount of Defense high Level Waste (DHLW) which will be used for experimental purposes and retrieved prior to closure of the facility. The quantities of radioactivity and volumes of each waste type are shown below.

Inventory of WIPP

Waste Type	Radioactivity (Curies)	Volume (Cubic Feet)	Maximum External Dose Rate (R/Hour)
CH-TRU	14,100,000	5,500,000	0.2
RH-TRU	5,100,000	150,000	1,000
HLW	17,000,000	1,000	30,000

(Reference: Integrated Data Base, 1987)

Although there is a tendency to describe TRU waste as "Low-level Waste (LLW)", the transuranic waste to be emplaced at WIPP is not low level waste. LLW can be disposed with shallow land disposal technology at a cost of $15 per cubic foot. If WIPP were LLW, the 6 million cubic feet could be disposed at a cost of $100 million and not the $2.1 billion being spent on WIPP. Needless to say, one would not unnecessarily spend an additional $2 billion to place the wastes at a depth of 2,150 feet if this were LLW. Additionally, the U. S. Environmental Protection Agency Standards for the disposal of High Level Waste apply equally to TRU waste. In their judgement, the hazards, while different, require comparable geological isolation to protect the public health and safety.

Method of Operation

Analyses are conducted of available data concerning the proposed site, the design, operations, and long-term stability of the repository and the transportation of wastes. These analyses include independent

investigations as well as assessments of reports issued by the U. S. Department of Energy (DOE) and its contractors, and other Federal agencies and organizations as they relate to the potential health, safety and environmental impacts from WIPP.

Thirty-five major reports have been issued to date and distributed to 450 different recipients including the Governor and his policy advisors, the Congress, the Legislature, the scientific community, the Department of Energy, its contractors, and the general public.

From the beginning we believed it to be necessary to publish our analyses and reports and to subject our work to scientific peer review in order to maintain scientific credibility and to insure the broadest possible dissemination of our findings. The breakdown of 35 reports is as follows:

SUBJECT OF REPORTS

Site Characterization	16
Performance Assessment	7
Transportation	3
Review of Regulatory Documents	7
Environmental Monitoring	2

The EEG approach to assessing the public health and safety consequences of WIPP has not been limited to a critique and review of published DOE positions. EEG has established an independent position on every major radiological health issue. These reports are listed at the end of the testimony and copies are available.

EEG REPORTS (1979-87)

Review of DOE Reports	6
Original Work	29

Unlike Congressional legislation requiring NRC licensing for the disposal of defense wastes in the form of defense uranium mill tailings and defense high level wastes, Congress excluded NRC licensing of WIPP in the 1979

Authorization Act (PL 96-164). This places a very heavy burden on EEG to insure the States' health and safety concerns are fully met while operating under the non-regulatory provisions of the 1978 Contract and the 1981 Consultation and Cooperation Agreement between New Mexico and the U. S. Department of Energy.

Accomplishments

What are some of the accomplishments of the EEG efforts?

1. Relocation of the repository. After a brine reservoir estimated to be 5 to 17 million barrels was intercepted at a point 460 feet north and 600 feet below the planned location of radioactive waste, EEG recommended the relocation of the repository 1-1/4 miles to the south to a zone that was structurally less complex. Eight months later, DOE concurred.

2. DOE agreed to conduct additional tests to flow a brine reservoir, delineate the extent of brine under the repository through geophysical techniques and to measure the flow and transport characteristics of the aquifer most likely to be involved in a breach scenario.

3. After EEG notified DOE in August 1985 that the design of the TRUPACT-I shipping container to be used to transport transuranic wastes to WIPP was unacceptable for use in New Mexico, DOE agreed in May 1986 to redesign the shipping container to incorporate U. S. Nuclear Regulatory Commission (NRC) requirements of double containment for shipments exceeding 20 Ci Plutonium and to eliminate venting. Subsequently, DOE has agreed to have all shipping containers used to bring waste to WIPP certified by the Nuclear Regulatory Commission.

4. EEG sponsored 5 major meetings providing a forum for differing views on the adequacy of the geology to prevent the waste from returning to the biosphere and to quantify the radiation doses from different breach and leach scenarios. While these sessions did not achieve a technical consensus, they did approach agreement on the information needed to be able to predict long-term future behavior based on reconstruction of the past

history. Credit for these very successful sessions is also shared with DOE and Sandia, the U. S. Geological Survey, the National Academy of Sciences and universities of New Mexico and other universities. It is essential that technical concerns be aired through structured scientific debate, not only to try and resolve their future significance but to provide assurance to policy makers and the public that these issues are being openly and adequately addressed.

5. Continuing technical interactions with DOE to insure a good system. An example is the work this past year by EEG on the ability of the DOE monitoring system in the exhaust air duct from the mine to detect radioactivity during operations and divert the air flow to pass through high efficiency filters before discharge to the environment.

Work to be Done

There is still a considerable amount of work to be performed by EEG on WIPP.

1. An evaluation of the WIPP's conformance with the September 1985 EPA Standards (40 CFR 191) governing the disposal of both transuranic and high level waste. The standards were vacated by the First Circuit Court of Appeals in Boston on July 17, 1987 and remanded to the agency for reconsideration. The basis for the decision was that parts of the Rule did not contain adequate justification, the rule-making procedures were flawed, and they were not as restrictive as Congress intended in the Safe Drinking Water Act. EPA has not yet announced their plans for re-promulgation. EEG testified at public hearings, the EPA Scientific Advisory Board meetings and provided written comments on the proposed standards in the past, and we anticipate working with EPA on this in the future as well.

Pending promulgation by EPA of new standards, we will continue to measure the performance of the repository against the old standards as agreed to by New Mexico and DOE in the recent Modification to the Consultation and Cooperation Agreement.

The Department of Energy does not expect to complete their determination of whether WIPP will meet the standard for safe disposal until 1992.

2. Monitoring for radioactivity both on-site and off-site. Under terms of the Stipulated Agreement to the 1981 lawsuit of the New Mexico Attorney General, the Department of Energy has provided funding for our pre-operational monitoring program for background radioactivity at both the WIPP site and in the surrounding communities. The NM Attorney General is currently negotiating with the Department of Energy for an independent isokinetic stack monitoring system for radioactivity in exhaust air at the point of discharge to the environment to be operated by EEG. The purpose of this independent monitoring is to document the presence and or the absence of any radioactivity being released and thereby validate the results of DOE as provided by the C & C Agreement.

3. Overview of the plans and procedures to minimize occupational radiation exposure to workers at the WIPP Site.

Specific Activities During The Next Year:

1. Evaluation of the design of the new Type B TRUPACT shipping container to be used for the transportation of Contact Handled Transuranic waste.

2. Evaluation of the RH-TRU shipping cask.

3. Completion of the EEG preoperational monitoring program at the site and in the surrounding communities.

4. Design and install the EEG monitoring system in the exhaust stack.

5. Complete our evaluation of DOE's on-site continuous air monitoring systems.

6. Evaluation of the air underground ventilation system for both normal and accidental conditions for the new air intake shaft scheduled for completion in October 1988.

7. Complete our evaluation of WIPP's compliance with Part A of the EPA Standard relating to management and storage (Part A, 40CFR191) and evaluate DOE's determination of compliance.

8. Evaluate the DOE plans for CH-TRU and RH-TRU experiments at WIPP when published.

9. Evaluate DOE's estimated schedule and description of the process that will be used to show compliance with the Assurance Requirement of Part B of the EPA Standard.

10. Integrate information from ongoing studies to determine high probability breach scenarios and their assessment in view of the Containment Requirement of Part B of the EPA Standard.

11. Provide technical assistance to other state agencies in areas such as response training.

12. Integrate information from ongoing hydrologic studies with existing data to form a reliable model of WIPP area hydrology. Evaluate ongoing geochemical work to determine the radionuclide transport properties for WIPP release scenarios.

Environmental Evaluation Group
Reports

EEG-1 Goad, Donna, A Compilation of Site Selection Criteria Considerations and Concerns Appearing in the Literature on the Deep Disposal of Radioactive Wastes, June 1979.

EEG-2 Review Comments on Geological Characterization Report, Waste Isolation Pilot Plant (WIPP) Site, Southeastern New Mexico SAND 78-1596, Volumes I and II, December 1978.

EEG-3 Neill, Robert H., et al, (eds.) Radiological Health Review of the Draft Environmental Impact Statement (DOE/EIS-0026-D) Waste Isolation Pilot Plant, U. S. Department of Energy, August 1979.

EEG-4 Little, Marshall S., Review Comments on the Report of the Steering Committee on Waste Acceptance Criteria for the Waste Isolation Pilot Plant, February 1980.

EEG-5 Channell, James K., Calculated Radiation Doses From Deposition of Material Released in Hypothetical Transportation Accidents Involving WIPP-Related Radioactive Wastes, November 1980.

EEG-6 Geotechnical Considerations for Radiological Hazard Assessment of WIPP. A Report of a Meeting Held on January 17-18, 1980, April 1980.

EEG-7 Chaturvedi, Lokesh, WIPP Site and Vicinity Geological Field Trip. A Report of a Field Trip to the Proposed Waste Isolation Pilot Plant Project in Southeastern New Mexico, June 16 to 18, 1980, November 1980.

EEG-8 Wofsy, Carla, The Significance of Certain Rustler Aquifer Parameters for Predicting Long-Term Radiation Doses from WIPP, September 1980.

EEG-9 Spiegler, Peter, An Approach to Calculating Upper Bounds on Maximum Individual Doses From the Use of Contaminated Well Water Following a WIPP Repository Breach, September 1981.

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EEG-21 Faith, Stuart, et al., The Geochemistry of Two Pressurized Brines From the Castile Formation in the Vicinity of the Waste Isolation Pilot Plant (WIPP) Site, April 1983.

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EEG-26 Spiegler, Peter, Environmental Evaluation Group's Environmental Monitoring Program for WIPP, October 1984.

EEG-27 Rehfeldt, Kenneth, Sensitivity Analysis of Solute Transport in Fractures and Determination of Anisotropy Within the Culebra Dolomite, September 1984.

EEG-28 Knowles, H. B., Radiation Shielding in the Hot Cell Facility at the Waste Isolation Pilot Plant: A Review, November 1984.

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EEG-31 Ramey, Dan, Chemistry of the Rustler Fluids, July 1985.

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EEG-34 Chaturvedi, Lokesh, (edi), The Rustler Formation at the WIPP Site, January 1987.

EEG-35 Chapman, Jenny B., Stable Isotopes in Southeastern New Mexico Groundwater: Implications for Dating Recharge in the WIPP Area, October 1986.

EEG-36 Lowenstein, Tim K., Post Burial Alteration of the Permian Rustler Formation Evaporites, WIPP Site, New Mexico, April 1987.

Senator BINGAMAN. Did either Lokesh Chaturvedi or James Channell wish to testify, or just to respond to questions?

Mr. CHATURVEDI. Just to respond.

Mr. CHANNELL. Just to respond.

Senator BINGAMAN. Well, let me ask a couple of questions, if I could, and then I'll defer to my colleagues here.

Let me ask Lokesh some questions particularly on this issue that I was asking DOE about earlier, which is the 15 percent that they have indicated they would like to be able to put in the site before meeting all of the EPA standards.

I have had a concern that it will be difficult at a later date to come back and meet those standards with regard to that 15 percent, and I would be interested in your opinion as to whether there is a problem there, and if so, what the nature of it would be.

Mr. CHATURVEDI. I don't see a problem from what we know at this time in meeting the standard that is Subpart B, the containment requirement and the individual health requirement.

The concern, however, is that a large amount of waste will be emplaced before the standards are met, and if the waste is in place without backfill, as is the plan of DOE at the present time, then this large amount of waste, according to our calculations of 126,000 drums will have to be moved around and perhaps they may have to be retreated and then put back.

So while geologically, and what we know about the site, it would show compliance with EPA standard. Part B still has to be done, and we don't see any insurmountable problem and be able to show compliance.

The timing of compliance will necessitate the moving around of waste underground and perhaps even above.

Senator BINGAMAN. Then is it fair to say you do not believe that DOE would be in need of getting some waiver from EPA standards as a result of going forward with the plan that they have laid out?

They have testified here that—as I understood Mr. Wade's testimony, that they could comply fully with EPA standards, that they can do so without any waiver, and that they feel very comfortable about that.

Do you agree with that assessment?

Mr. CHATURVEDI. Of course, the lab testing is a comprehensive and fairly detailed technical effort. They have started and they have told us compliance would be assured by 1992 or 1993. It is difficult for me to say whether they may have to go for a waiver at this time until their work is completed.

However, what we know so far, we don't think they will require the waiver. They may require some changes in plans, perhaps in design, perhaps in treatment of the waste canisters. But what appears to be our present knowledge, it doesn't seem to be necessary to have to go for the waiver.

Senator BINGAMAN. Let me ask you also on the high-level waste experiments. There has been testimony that there is a significant scientific benefit to be derived from those high-level waste experiments.

I have difficulty understanding precisely what high-level waste experiments are contemplated and whether or not we really have a clear notion of what we would hope to experiment about.

Could you give me your views as to whether there is sufficient precision in defining these experiments at this point or whether these experiments are needed?

Mr. CHATURVEDI. Mr. Chairman, to answer the first part of your question, whether sufficient precision and whether the experiments have been defined, the answer is no.

Sandia, which is the scientific adviser to the WIPP Project, and we work very closely with them, has three or perhaps four reports in which a conceptual framework of what the expectance will be is made, is mentioned.

There is no document, to my knowledge, that specifies what the experiments will be or what the use of those experiments will be.

To answer your second question, whether there is any scientific advantage of the experiments leading from the first answer, it is difficult to tell whether there will be a scientific advantage unless we see what the experiments are.

In the previous panel's testimony it was cleared by Dr. Weart, Dr. Weart's testimony answered some questions that a major importance will be—of the experiments will be to share our portion of the handling and capability of handling, and I am not addressing my response to that.

But in terms of getting experimental results which could be used for the WIPP Project or other repositories, first of all, is difficult to say because we don't have the experiments as planned.

Secondly, since the experiments will be mainly for a high-level waste repository, and there is a commingling of commercial and defense high-level waste, and out of the three repository sites being considered, only one is in salt.

It is perhaps only 32-percent chance that it would be directly usable. I am talking about the experiment data, and what about the expediency of handling the waste.

Senator BINGAMAN. Let me just ask one other question, and that relates to the geologic information.

Your background is in geology, as I understand it.

Mr. CHATURVEDI. Yes, sir.

Senator BINGAMAN. Is there new geologic information that would affect the stability, or your view of the stability of the WIPP site since the EEG report that was done in 1983? I believe that at that time a report was done.

Has there been additional information that you believe in any way changes their conclusions that the site is stable and can be used for this purpose?

Mr. CHATURVEDI. In 1983 we published a report after DOE's assessment and the site is ready for going into the next phase, that is, full development. And in that report we said that the data at that time warranted confidence in the suitability of the site, although we did identify a number of studies which DOE should perform in order to be completely certain about the site.

I am happy to report that we have received a large number of reports which came out of our suggestion in 1983. We expect the last report to come out in a few months, within about 6 months or so.

We know much more about the site than we did at that time. The site suitability will have to be determined finally as a compli-

ance with the Subpart B of the EPA standards, this is the containment requirements and the individual protection requirements.

Until that work is done, it is premature to say, for us to certify that the site is suitable. But on the other hand, I am happy to say that we do not find anything, any flaw in the site which would make it unsuitable.

There are a couple of points I would like to bring out here. What we have learned about more about the hydraulic, the formation in which the repository is being located, and we also know from geophysical experiments on the surface that there's a good possibility of the existence of brine, pressurized brine underlying the formation.

Although there was experimental information from the surface, there is an indication as to the formation of that, but all those factors will go into the input portion and comply with EPA standards.

That effort is in very capable hands in Sandia Labs, and I'm sure we will take all the new data which has become available in showing compliance with the EPA standards.

Senator BINGAMAN. Thank you very much.

Let me defer to Senator Domenici and see if he has questions of Mr. Light.

Senator DOMENICI. I gather that because of other obligations folks have this noon, we should quit at 12:15. Is that good for the folks? Can you folks wait that long? That's just another ten minutes here.

Senator BINGAMAN. Go ahead, sir.

Senator DOMENICI. Governor, let me first thank you for your conversion. [Laughter.]

It has been a pleasure to work with you since we first met as a delegation in your office.

I agree with you that they ought to compensate us for the revenue foregone, and I thank you for your strong support. I am hopeful we can keep that in our legislation, and I hope that before we are finished we can effect a total conversion of our friend, Congressman Lujan. [Laughter.]

Let me also suggest to the Attorney General that from the time that we met up in the Governor's office, I think it was the whole delegation, save and except Jeff, who was represented there, we asked the Governor to proceed with certain issues.

We did not cover them all, but to the best of my understanding, the consent agreement which you entered into covered the areas that we agreed should be covered, and I personally want to thank you for that.

Obviously, that was a two-way street, the Department of Energy had to agree to that also.

I want to compliment you on two specific things that I think are very good for the state.

Most of us urged you to do them, and we urged the Governor to be very insistent upon them, and that is the Nuclear Regulatory Commission licensing on the transportation facility. There was a lot of discussion by some that it might not be necessary. I'm delighted that it's in the consent agreement.

Second, with reference to agreeing now, regardless of this current status of the law, that as far as the storage regulations in that

consent agreement, you have insisted that the Department agree now that they will comply with the EPA regulations in that regard. I think that is something that would have caused concern and it's out of the way and I compliment you for that.

Now, could I move over to Bob Hawk. Let me just thank you very much for all you've done in the past. It has been a very difficult job, and you, in contrast to most of the senators and representatives, you don't live here, you're from way, way over there in Albuquerque and nonetheless you have chaired the committee and I think you have chaired it with great expertise and impartiality, and I compliment you for that.

I might just ask you, you support the legislation, you have said that specifically. Have you had a chance to look at the agreement that the State of New Mexico entered into with the Department of Energy, some of which is found in the legislation, some is not? And I ask you to support that.

Mr. HAWK. Yes, Senator, we had representatives from the Governor's office and Attorney General Stratton for the committee to go over the amendment to the stipulated agreement, and we quizzed them thoroughly on the contents of the agreement, and the committee does agree with what is in the amended stipulated agreement.

Senator DOMENICI. Just one last question, then, of the Governor.

Governor, with reference to the stipulated agreement and the roadway money, the way you have agreed with the Federal Government says in a typical manner that they will use their best efforts, that's the way it was done before in the previous agreements, to try to help us get the money.

Let me just ask, would you object if we went one step further, casting no aspersions upon the agreement, obviously, and included authorization for the roadway projects in the legislation? Obviously it would still have to be appropriated at some later date, you understand that process in Congress, but what would be your views if we went ahead and as part of this said the Department of Transportation is now authorized to fund these projects, we stated them and stated the dollar amount? Do you have any views on that?

Governor CARRUTHERS. Yes, Senator, I would encourage you to do that as long as it did not hold up the basic legislation, that is, to move the WIPP Project forward, or the Delaware Basin National Laboratory that I referred to.

As a consequence, if you can get it in there without complicating the legislation, we would encourage you very much to do that.

Senator DOMENICI. Thank you very much.

Thank you, Mr. Chairman.

Senator BINGAMAN. Congressman Skeen.

Mr. SKEEN. Thank you, Mr. Chairman, and quickly, I do want to thank all of you for being here, the Governor and his administrative group, the Attorney General, and the members of the Legislature, because this is an all-out and an all-court interest and I think we have had that kind of representation throughout the hearings from local government, and that's extremely important.

We appreciate the support, we appreciate your interest.

I want to ask the Governor, where is the Environmental Evaluation Group now located?

Governor CARRUTHERS. Santa Fe location.

Mr. SKEEN. Would there be any advantage to having that group located in the Carlsbad area to have a more hands-on——

[Laughter.]

Governor CARRUTHERS. Well, I think in discussing this with the Department of Energy and others, there may come a time it would be appropriate to have a group involved directly with the laboratory down here, and I would be more than pleased, not only to discuss it with the group but the contractor.

Mr. SKEEN. I heard some laughter out there, and I hope it's not the laugh of doom.

I appreciate that very much. Thank you very much.

I would like to ask Bob Hawk, too. You mentioned something that really interested me, because I think we've been rather narrowly focused on the problem of waste disposal and handling, and so forth.

You mentioned hazardous waste as a general term, or generic term, and I think that we have a tremendous interest throughout the United States, particularly local government units, about how we're going to handle our own toxic and hazardous waste.

Do you envision this facility having any real importance in development of data in dealing with these particular problems that are more of a mundane or day-by-day effort?

I do, and I just want to know what's the feeling of the committee.

Mr. HAWK. Right offhand, Congressman, I don't see the facility, per se. However, certain things that are being developed in the areas of transportation and emergency response have a feed over to handling hazardous wastes, and I think we'll realize a great deal of assistance and knowledge in that area.

Mr. SKEEN. Anything to do with depositions or repositories of any kinds of hazardous material?

Mr. HAWK. At the present time, New Mexico publicly will not get involved in a heavy repository of hazardous material. We don't produce that much. They transport it through the state, though. That's more dangerous than the repository in many respects.

But we probably in the foreseeable future will not get involved in repositories. I have not heard of anything that we will gain from this repository, but I haven't asked the question either, I must say.

Mr. SKEEN. Could be a developing issue.

Mr. HAWK. That's right.

Mr. SKEEN. Thank you very much.

Thank you, Mr. Chairman.

Senator BINGAMAN. Congressman Richardson.

Mr. RICHARDSON. Thank you very much.

Governor, I'd like to ask you a question on the impact assistance relating to states that host nuclear waste dumps. As you know, there's a number of proposals floating around Washington to bring back assistance, and I've expressed concern that in the WIPP Project that we don't have the substantial commitments to receive that impact assistance, and I wondered if you could just state for the record your position on whether you agree with me that the state ought to request impact assistance and whether DOE has an obligation.

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Secondly, whether you see any merit in this delegation with you and your staff looking at the option of a user fee that might be enacted to appropriate some of these funds that would not be available through the appropriations process.

Governor CARRUTHERS. Mr. Chairman, Congressman, I understand that the legislation does include specifically the economic study of potential impact on this particular region, and subsequently some compensation for that, if I understand the legislation correctly. So we are very supportive of that aspect of the legislation.

I cannot tell you, nor can my experts tell you what that economic impact is at the moment. We have not studied it, but it is not unusual for the Federal Government to concern themselves with economic impact, particularly in a region that is heavily dominated by federal resources, so I am very supportive of that.

With respect to the fee, I do believe that we have to be cautious about what level of fee we charge. That is our cost in this particular case, in the Department of Defense operation, and we do have a Department of Defense operation in New Mexico which would constantly be coming back to the Congress to continue with its support.

I am not sure what method you have in mind, but it would seem to me we might in fact be impacting some of our programs and they're a little too aggressive with respect to charging the DOE for deposit of materials here.

I would rather you consider that economic impact study and the consequences of having the facility located here.

Mr. RICHARDSON. But you would not oppose exploring that concept perhaps with the Legislature?

Governor CARRUTHERS. No, sir.

Mr. RICHARDSON. I don't have a specific proposal either. I am working on one now that hopefully we can consider, but it just seems to me that that has been done in another state, and my interest is not to rob other programs of funding.

I am talking about a user fee for defense waste that will come in and be used for, say, some of the programs that Mr. Scheidel mentioned, and many other worthy causes.

Governor, I do want to commend you on something. You recognize, knowing the Federal bureaucracy in Washington, and I know you were up in Washington recently to try to get a little bit more substantial commitments from the Department of Energy for the $190 million.

With all due respect, it seems that I yet have heard even less this morning of the Department of Energy and the Federal Government doing anything substantial, and I do wish to state to you that—I know that you're concerned about this, and I appreciate your statement and you said you would like to—you have no objection if we authorized the money in the legislation.

I think that's a major step forward, because with all due respect to the Department, I don't see it coming otherwise.

Governor CARRUTHERS. Mr. Chairman, Congressman, I would encourage you with the authorization language, and for no other reason, to begin to sign the legislation of responsibility.

One of the problems is going to be to deal with more than one agency and it's very convenient to bounce the ball back and forth,

DOT will tell you it's DOE's responsibility and DOE will tell you it's DOD's responsibility, and it never seems to land anywhere.

So it's addressed to the authorization language, if you could at least decide responsibility, even though you've not got the language, then at least we know where to access and who to talk to with respect to the roads.

So I think that's an excellent recommendation. If you modify the language we'll be glad to do that.

Mr. RICHARDSON. Representative Hawk, I notice your wholehearted support for the agreement, and earlier today we heard from the Department of Energy and the BLM stating that they felt that the state was not entitled to the $50 million in royalty.

I wondered, as you have proceeded to listen to the witnesses today, I'd like to have your position as Chairman of the Joint Committee, on whether you think the concerns that we have raised in terms of the $190 million being part of the bill, the EPA standards, full EPA standards before the waste comes in.

You stated your position on the high-level waste, so I won't ask you about that.

Last, this user fee concept, whether you think it is valid exploring it. It seems to me that you may wish to amend your earlier statement in light of what you have heard this morning, and I want to give you that opportunity. It may not be the case.

I know your full committee is not here.

Mr. SKEEN. I think you're directing the witness. [Laughter.]

Mr. HAWK. I did not mention the names of the committee. Maybe I should have. One of them is on my left, Representative Light, so if I say something which he does not agree with, he can kick me.

Gary King, Representative Gary King, Representative Dick Salazar, Representative Don Silva, Senator Watson, who is in the audience, Senator Smalley, Senator Morrow, Senator Holt and Senator Stoddard and members of the committee.

The resolution, as it was drawn up, was unanimously approved, as I stated. I may not remember everything, Congressman, that you mentioned there.

First, let's start with the last thing you mentioned, and that's that fee arrangement you have been proposing, which all I know of is what I read in the paper, to be quite frank. I have seen nothing else.

I would be very happy to arrange for you to appear, or a representative of yours to appear before our committee to discuss this. We have discussed it informally, but we were not quite seeing how it was going to work.

So we would be—I am very eager to get more on that, and would consider it very definitely. I don't think there is any question about that. I have no position on it.

You mentioned the EPA requirements. I feel very comfortable with the EPA requirements as they are stated in the amended supplemental agreement.

The 15-percent rule would allow for retrieval, if for some reason or other they could not meet the EPA requirements, and I think that is the guiding point, the guiding technical point that we have to remember at all times.

We are still talking about a pilot project, and up until a certain point, the waste that is placed there would be retrievable, and that is the circumstances involved with the 15-percent proposal.

The other one was the amount of money?

Mr. RICHARDSON. Impact assistance.

Mr. HAWK. Impact assistance, I have no objection. In fact, we agree with the bill, so we agree with the $50 million that's in the bill.

It might be that it would be better expressed if it was impact money rather than connected with royalties, because it's hard to prove just what the royalty figure is, but there is definitely an impact involved. There is no doubt about that. There is definitely an impact that's involved.

I think the state is entitled to assistance on such a major project as this, from the Federal Government on impact funds.

Mr. RICHARDSON. Attorney General Stratton, let me ask you a question, a home-run question for, and in fairness to the criticism that I have laid out to the agreement with the Department of Energy, you stated early on that you recognized the lack of a commitment on the part of the Department for the $58 million, and that for that reason the new agreement, the new stipulated agreement with DOE, in your judgment, meets those concerns that you expressed about good faith effort on the part of the Department.

I would like to have you amplify on that, why you think what you signed makes sense, whether you agree with the Governor that we should authorize money in the bill.

Do you think any further steps need to be taken in the Congressional process to ensure that your agreement is arrived at and enforced?

Mr. STRATTON. Mr. Chairman and Congressmen, first of all, I have not been involved with DOE regarding their helping us obtain $58 million. I was deriving my knowledge from a meeting that we had had and the criticisms that you all have, so I couldn't say of my own personal knowledge whether they were helpful or not. I was taking you at your word for that.

In negotiating what they would do, we tried to get them to agree to everything that was legal under Federal law as far as helping us lobby. I understand lobbying by an administrative agency a crime, and we therefore took that language out of there and we tried to put everything else in there that made them do that without specifically calling it that.

There was a concern about putting the money in their budget. Many people in DOE and many people in this delegation were concerned about what impact that would have on other DOE money for the State of New Mexico. They weren't willing to do that, that quite frankly, was a deal breaker at that point, so for various reasons we didn't agree to do that.

So I think we have done everything possible that we can do as far as getting an agreement from them as far as their help.

I don't have an opinion as to whether you put—where you get the money. I just hope we can get it. I certainly am not an expert on Congressional strategy and I would adopt the government's position or defer to your position on this, whether the money should be placed in this legislation or not.

Governor CARRUTHERS. Mr. Chairman, if I might just make one comment.

I believe the Department of Energy and the administration, and I assume that would change with administration, and I'm sure they're not going to drop this project, regardless of the way they're swinging, but with timely progress and the Delaware Basin National Laboratory still is very dependent upon the support of the state government, whether it's legislation, Governor or Attorney General.

I don't believe the Department of Energy can afford to go forward without keeping this kind of atmosphere without risking the loss of support of those who are elected by New Mexicans to represent them.

Senator BINGAMAN. Thank you very much.

Congressman Lujan.

Mr. LUJAN. Thank you very much, Mr. Chairman, and just very quickly, we're up to 12:30 already, I want to commend you, Governor, on your attitude that we've got to keep this legislation going, that all of these other things we can get worked out, and should as soon as possible, but the important point is to get them all going so that we can proceed.

Now, I would just like to clarify something, I guess, about what I said about that this isn't a cow for us to all milk and there's not a big enough udder here for all of the needs, I suppose.

What I am saying is that it's got to be reasonable. The first figure that I heard was $8 million that the state ought to be paid. And then it came back and today the Attorney General just mentioned a figure of $58 million.

So we keep escalating this thing, and every time that we have a meeting, there's an additional issue that we've got to address.

I think that we are losing sight of the important part of. When we started off with this thing a year ago, we were just going to authorize the permanent withdrawal.

That is my comment. Thank you very much.

Senator BINGAMAN. Thank you very much.

Let me thank this panel very, very much. Thank you, Governor, in particular, and the Attorney General, for being here.

We had planned to start again at 1:30. In light of the fact that we are finishing the morning session a half hour late, why don't we start at 1:45.

Let me just advise everything that we will start at 1:45, and we just hope everyone is here. We have two very full panels to hear from this afternoon, and we appreciate everyone's help in getting this thing moved forward.

Thank you.

[Whereupon, at 12:30 p.m., the hearing recessed until 1:45 p.m.]

AFTERNOON SESSION

Senator BINGAMAN. Why don't we go ahead and get started. I know that there are some people who are not back yet, but we have got a lot of testimony to hear this afternoon, and I'm sure the others will be coming in, so we will now start with the third panel, which is the local government panel.

The members of the local government panel, let me name off the folks who we are scheduled to hear from, and if they would please come forward and take a place at the table.

Ernest Thompson, the Mayor of Artesia; Pat Darcy, the Village Supervisor of Loving; Bob Forrest, the Mayor of Carlsbad; Joe Loving, Mayor Hobbs; Bill Brainerd, the Mayor of Roswell; Pat McCasland, the Chairman of the Lea County Commission; Bill Kirkes, the Chairman of the Eddy County Commission; Doug Perrin and Tom Jennings, who are both from Roswell and they are both on the City Council in Roswell.

If everybody who is in that group and present would please come forward, we would appreciate it.

Okay. Well, we have some of our panel, at any rate, and maybe we can go forward with some of the testimony, and then as others come in, we will be able to add them.

Our first witness is Mayor Ernest Thompson from Artesia. We are very glad to have you here, Mayor Thompson. If you would go ahead and give us your views here, that will be great.

Then I think we will try to follow the same procedure here we followed with the other panels, that is to have everybody testify and then we will have some questions for the entire group.

Go right ahead.

STATEMENT OF ERNEST THOMPSON, MAYOR, ARTESIA, NM

Mr. THOMPSON. Thank you very much, Mr. Senator and Chairman of this Committee.

I'd like to first thank each one of you for taking your time to come to Carlsbad and to hear us out on this. I have never had this many of these important people together at one time before, but it is a pleasure to see you here.

I have a very short presentation here.

I am Mayor Ernest Thompson, Mayor of the City of Artesia.

After much publicity over the past few years and after touring the Waste Isolation Plant, I have the following comments.

Number one, I have no problems or qualms about the site itself. I believe every precaution and safety factor at the site has been addressed. The plant is well planned, well constructed, and I do believe a very safe place for storage.

Number two, the problem I now foresee is the transporting material to the site. I do not think sufficient studies have been made through and around our towns with containers, method of hauling to get this material to the site.

Number three, our highways are not now suitable for hauling any more hazardous material, as we now have many trucks of propane, butane, tetraethyl lead and anhydrous acid and also some other things that are now present.

Highways in our community alone travel within a few blocks of our school, one to four blocks of three grade schools with some 760 students under the age of 12. You can easily see the concern of the parents as well as the local citizens.

Number four, material of hazardous nature should not be transported until the same level of precaution has been met as has been addressed at the WIPP site itself.

As an example, if you owned a pit bulldog, you knew it could be dangerous, I don't think you would turn it loose on the public, knowing that sooner or later you would have a tragedy. Or if you had a yard full of rattlesnakes, I don't think you would want to dump another load in with them.

We believe that it is imperative that prior to any material being transported on highways or stored in the WIPP facility, the EPA and the DOE should finalize all the regulations pertaining to transportation and storage of radioactive material.

In the printed material I have received, I believe $190 million has been or should be available to upgrade and build necessary highways and suitable hazardous material routes to properly and safely transport this material from the present storage site to its permanent storage facility at the WIPP site. We believe that the DOE should make funding available for the training and equipment that would be necessary for cleaning up spills and debris should an accident occur.

That completes my statement, Mr. Chairman.

Senator BINGAMAN. Thank you very much. We appreciate that statement.

Our next witness is Pat Darcy, who is the Village Supervisor of Loving, New Mexico.

STATEMENT OF PAT DARCY, VILLAGE SUPERVISOR, LOVING, NM

Mr. DARCY. Thank you very much for giving us the chance to appear before the committee. Our mayor was out of the area and was not able to get here.

This is a statement of Pat Darcy, Village Supervisor, Village of Loving, New Mexico, Monday, October 12, 1987, before the United States Senate Subcommittee on Energy, concerning the proposal land withdrawal of federal land at the Waste Isolation Pilot Plant [WIPP].

Mr. Chairman, Members of the New Mexico Congressional Delegation, Members of the New Mexico Executive Branch, Members of the Judicial Branch, Members of the New Mexico State Legislature, Distinguished Guests, Ladies and Gentlemen:

Speaking of behalf of the Village of Loving, I wish to point out to the delegation members that Loving is not here to oppose the land withdrawal.

However, I do want to point out that in the early development stages of WIPP, in meetings with Mr. Cooper and others from DOE, we were assured that the Village of Loving would receive considerable assistance in training and equipment for our fire department, police department, and our EMS programs.

To date, we have received zilch. In fact, we have been cut out of the program entirely, and until such time as we do receive some assistance in these areas, we will not respond to emergency calls from the WIPP site.

In closing, I want to say that we were assured that residents of Loving would receive the utmost consideration for jobs. We have two.

Gentlemen, that is our statement and it speaks for itself.

Thank you very much.

Senator BINGAMAN. Thank you very much, Pat. I'm sure we will have some questions to ask as we get to the question part of this panel.

The third witness—I am just going across the board here—Bill, we appreciate you being here very much, as the head of the County Commission here in Eddy County, and why don't you go right ahead.

STATEMENT OF BILL H. KIRKES, CHAIRMAN, EDDY COUNTY COMMISSION

Mr. KIRKES. Thank you, Mr. Chairman.

On behalf of the Eddy County Commission, I want to welcome you and all the committee down here, and we hope you sure enjoy your stay down here.

We've got a short witness statement that we'd like to make about the—relative to the Senate Bill 1272, and I'll just go ahead and read it to you, it's very short, and if I can answer questions, I'll be happy to.

Mr. Chairman, the Eddy County Commission is very interested and concerned with the safety of the citizens of Eddy County.

We have watched the studies, heard the hearings and more studies over the last several years and we satisfied that the DOE has developed a project that is safe for the people of our area.

Moreover, the positive economic impact on Eddy County has been substantial. The several hundred jobs that have been provided have been especially important, in light of the decline of the oil and gas industry in our area.

Mr. Jack Tillman and the DOE have been very helpful and cooperative to Eddy County with respect to funding for road construction on roads that have been impacted by this project.

As to Senate Bill No. 1272 itself, we would like to see Section 2-B, which relates to mineral royalties, stay in the bill as it is written there, and even a stronger wording put in Section 4-E relating to business and the employment opportunities for the area residents.

Overall, the Eddy County Commission supports Senate Bill No. 1272.

Thank you.

Senator BINGAMAN. Thank you very much.

Our next witness is Mayor Bill Brainerd, from Roswell.

Bill, we are very glad to have you here and we appreciate you driving down this morning.

Please go right ahead.

STATEMENT OF WILLIAM F. BRAINERD, MAYOR, ROSWELL, NM

Mr. BRAINERD. Thank you, Mr. Chairman.

Roswell also supports Senate bill 1272. We do, however, support the suggestion that's been made here this morning by Senator Domenici and Congressman Richardson, that an amendment be made to provide funding for certain highways, as I believe you discussed with the Governor and Mr. Lundsbury this morning when they testified.

Roswell's chief concern with reference to the WIPP is the transportation of the materials to the site. As presently contemplated, the trucks carrying the waste to the WIPP site will travel through downtown Roswell on U.S. Highway 285, which is our main street.

U.S. 285 north of Roswell has been improved and widened with WIPP funds in order to accommodate the vehicles transporting the radioactive waste.

Unfortunately, due to the wording of the agreement between the state and the DOE, new construction funds have not been available except for existing rural routes and an alternate route around Roswell does not qualify.

As a result, the WIPP trucks must traverse main street from north to south, going through the downtown part of Roswell.

At the present time, Main Street is determined to be deficient in three respects, volume, safety and surface.

Main Street was designed to carry approximately 20,000 vehicles per day, and this number is now exceeded by almost 20 percent.

The density of the traffic and the poor surface conditions on the street have raised concerns about the safety of the trucks on Main Street.

The concerns of the community were addressed by the Roswell City Council on April 14, 1987. It passed Ordinance No. 1167, which restricts the transportation of radioactive material through Roswell only to the period from midnight to 6:00 a.m.

This is the time when the council felt traffic is the lightest on Main Street and the hazards would be reduced.

A bypass or relief route around Roswell has been engineered and designed by the State Highway Department. This proposed bypass is not in line for construction in the near future because of a lack of funds at the state level.

The only realistic chance of seeing construction of the bypass in the near future would be with appropriated funds from the Department of Energy as part of the WIPP Project.

The need for this bypass is quite evident to the people of Roswell. They are concerned that the DOE appropriated funds for the widening of U.S. 285 to the north of Roswell to make it safer for the WIPP trucks, and then will require that these very same trucks be routed through the business district of our city on a street which is already crowded and dangerous.

Mr. Chairman, those are my prepared remarks. Thank you very much.

Senator BINGAMAN. Thank you very much. We appreciate those remarks, and I'm sure we will have some questions that relate to it.

Our next witness is Doug Perrin, who is a City Councilor of the City of Roswell.

Doug, we are glad to have you here.

STATEMENT OF DOUG PERRIN, MAYOR PRO-TEM, ROSWELL, NM, ACCOMPANIED BY THOMAS E. JENNINGS

Mr. PERRIN. Thank you, Senator Bingaman.

I'm here today also on behalf of the citizens of Roswell, and Councilor Tom Jennings, who is seated next to me and also serves on the City Council in Roswell.

I would like at this time—and attached to our prepared testimony are petitions[1] signed by Roswell citizens that suggest that the strictest safety standards should be followed at WIPP.

In addition, there is a letter from State Senator Tim Jennings, who was unable to be here today. That letter reads as follows:

Dear Senator Bingaman, I would like to submit this letter for your consideration as Chairman of the Waste Isolation Pilot Plant land withdrawal field hearing sponsored by the Senate Energy and Natural Resources Committee.

My concerns are:

Number one, that the Department of Energy be held to its commitment to secure funding through Congress for bypasses around those communities that have indicated such a radioactive waste transport bypass is desirable, i.e., Santa Fe, Roswell, Artesia and Carlsbad, and that the proposed $190 million transportation bill to cover these costs be passed in Congress at the same time as Senate Bill 1272.

Number two, that the Department of Energy honor its original agreement with the State of New Mexico to comply with all federal standards relating to WIPP.

In particular, the Department of Energy should comply with the federal Environmental Protection Agency transuranic waste disposal standards before any waste is put at WIPP which is contrary to the proposed 15 percent provision in Senate Bill 1272.

Sincerely, signed Timothy Z. Jennings.

As we are all aware, the Department of Energy plans to transport radioactive waste through the City of Roswell to the WIPP site near Carlsbad, New Mexico. That waste will be transported on U.S. Highway 285.

U.S. 285 is the principal north-south thoroughfare in our city and is also known as Main Street. These shipments are scheduled to begin in October 1988 and should continue for the following 20 years.

There will be approximately six to eight shipments per working day, totaling more than 6 million cubic feet of waste.

The State of New Mexico's Environmental Evaluation Group projects that there will be more than 12 accidents with the release of radioactive materials during the lifetime of the WIPP Project, and seven of these would be in urban or suburban areas.

A potential accident involving the release of radioactive materials in an urban area may be within the confines of the City of Roswell. Due to this potential public health and safety hazard, the City of Roswell passed Ordinance No. 1167 addressing this transportation concern.

A copy of that ordinance is submitted for the congressional record with this testimony.[2]

The ordinance seeks to accomplish three things, as Mayor Brainerd stated.

Number one, the trucks transporting the waste are restricted to either Main Street or Second Street.

Number two, shipments are allowed only between the hours of 12:00 midnight and 6:00 o'clock a.m.

Number three, at least two hours notice of the times and route must be given to the City of Roswell's Police Chief or his designee.

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[1] Retained in subcommittee files.
[2] Retained in subcommittee files.

The City of Roswell plans to enforce this ordinance. One of the reasons we're here today is to ascertain whether or not the DOE plans to abide by Roswell's City Ordinance No. 1167.

The City of Roswell needs to know if the DOE plans to abide by Ordinance 1167 as soon as possible.

It has been mentioned that the City of Roswell is slated to received federal funding, along with several other communities, to build bypasses around the few urban centers found in New Mexico.

We are very concerned that this money has not yet been appropriated by Congress. We are afraid that unless the appropriations are somehow tied to the land withdrawal bill, no bypasses will be constructed in time to protect our citizens.

The fact that no bypass money is currently included in any pending federal legislation related to WIPP makes our city ordinance even more important to ensure the health and safety of the community.

Even if bypass money is eventually appropriated, it will be several years before a bypass can be built. WIPP waste shipments, however, are scheduled to begin passing through Roswell next year.

We, of course, strongly support federal funding for a bypass around the City of Roswell to minimize the chance of any tragic accident involving a truck carrying radioactive material. We would like assurances that those monies will be appropriated.

It is our understanding that TRUPACT-II, the container planned to transport the radioactive waste to the WIPP site has not yet been tested for compliance with the regulations of the United States Department of Transportation and the corresponding regulations of the United States Nuclear Regulatory Commission.

We suggest that compliance must be assured before any shipments are made in the TRUPACT-II container.

In addition, Senate bill 1272 permits DOE to open WIPP next year prior to full compliance with environmental standards as determined by the EPA for the management and disposal of spent nuclear fuel and high-level and transonic radioactive wastes.

This waiver concerns us and we respectfully request that you consider amending Senate bill 1272 to require the DOE to fully comply with EPA standards prior to opening WIPP for the acceptance of radioactive wastes.

In the time it may take to demonstrate both the full compliance with EPA public health and safety standards and the certification of TRUPACT-II, truck bypasses could be constructed around Roswell and the other urban areas along the transportation routes.

This, we are sure, will ensure the citizens of Roswell and all of New Mexico that the Federal Government's utmost concern for the health and safety of our citizens.

And that completes our prepared testimony.

Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you very much.

Tom, did you have some additional statements, or is this—

Mr. JENNINGS. That was our statement, sir.

Senator BINGAMAN. All right. Thank you very much.

Next is Joe Loving, the Mayor of Hobbs, New Mexico.

Joe, we welcome you here and we are anxious to hear your points.

STATEMENT OF JOE LOVING, MAYOR, CITY OF HOBBS, NM

Mr. LOVING. Thank you very much. We appreciate the opportunity of giving you testimony on behalf of Hobbs.

I have included in my comments some background information about the City of Hobbs, and that would be sort of like preaching to the choir, since you fellows do such a good job of visiting our city and are familiar with it, but it's included in our written testimony.

I would like to tell you that the City of Hobbs is wholeheartedly behind your Senate Bill 1272, calling for the withdrawal of that 10,000 acres of state land to the Department of Energy.

We don't have any reason to believe that the acreage wouldn't be well managed in the same manner that the DOE and Westinghouse have managed the WIPP site.

We want to commend them both for their outstanding work at the site and with the surrounding communities, and feel like they have chosen to become a part of our communities rather than being a community in and of themselves.

We want to commend you for the foresight you have shown in the plan and in the development of the Waste Isolation Pilot Plant, and we think it has had a positive impact on our community and on the entire southeastern corner of the state.

Unfortunately, in the early going we weren't the squeaky wheel that we should have been and we didn't get a large influx of people or economic benefits from the WIPP site.

One of our large interests in the WIPP site is the economic benefits to our community. We feel like the City of Hobbs and many of its residents played a vital role in the early seventies in lobbying for the site between Carlsbad and Hobbs.

We were told at that time that we would be the recipients of a large amount of economic benefit for locating that site in our area.

What we thought was going to happen and what really happened were two different things, and until 9 months ago when we learned how to be a little squeakier, we didn't get a lot of business in Hobbs.

We now have some contractors that are bidding on WIPP contracts and we have some contractors that are working on WIPP related projects.

There is one major contract remaining. That's the transportation contract, and it's a multi-year, multi-million-dollar contract and I'd like to urge you and encourage you and ask you to award that to one of the contractors, one of the qualified contractors from Hobbs.

Also, the $58 million allocated to the State of New Mexico for repair of WIPP related roads was granted in an agreement reached in the early eighties. Since that time the terms of that agreement have changed.

Originally, the Highway 62–180 which goes through our city wasn't included in that original money. It runs directly through the eastern portion of our city, and we feel like the agreement should be changed to allow for road construction directly attributed to this change.

A delegation from our city met with most of you in Washington earlier this year and expressed our opinions about that. We think

the need for the money needs to be addressed and that it needs to be addressed soon.

We think it's time that we continue to work in the area of waste disposal, that there's not a better place or subject to continue with than a site characterization of the northern Delaware Basin located in Southeastern New Mexico as a site for high-level commercial waste repository.

The City of Hobbs would like to encourage you, as members of our congressional delegation, to push for this area to be included in the site characterization study being conducted in three areas of our country.

It appears that Southeastern New Mexico is well suited for such tests. The DOE would also be working in a friendly environment, which I think cannot be said of all your other sites.

In a matter of national importance, no stone should be left unturned, and without your help and assistance this little stone known as Southeastern New Mexico will be unturned.

We are not asking at this time to be selected as the site for the repository, we are asking to be allowed the opportunity to participate in the process of site characterization.

We don't propose to tell our delegation how to approach these projects, but we have an interest in having money for our roads so that we can transport the waste safely through our city, and if the way to approach that is by tacking that onto some bill, then we want you to know that we're going to support you 100 percent.

We are interested in getting our road money and not delaying the project, and we're going to support our delegation in the way they decide to approach that.

Again, it's an honor for us to be here today, and I look forward to continuing our positive and progressive working relationship with the Department of Energy. We would like to commend Mr. Romatowski and his staff and his predecessors for the development and operation of the WIPP site.

Thank you very much.

[The prepared statement of Mr. Loving follows:]

United States Senate

Energy and Natural Resources Committee

Subcommittee on Public Lands, Reserved Water and Resource Conservation

October 12, 1987

Joe Loving
Mayor
City of Hobbs
Hobbs, New Mexico

Mr. Chairman, Senators, Representatives:

I am Joe Loving, Mayor of the City of Hobbs. I am pleased to appear before this committee to provide an overview of the current conditions in Hobbs and to discuss the pending land withdrawal and other activities relative to the WIPP project.

We are a moderate sized community located five miles from the Texas border. In 1985, we boasted of a population of approximately 45,000 people in and around our city. Today, that is somewhat less. Hobbs is still a prosperous, progressive and energetic community, although not as prosperous as times past. but sill alive and doing fine. The rumors concerning a mass exodus out of Hobbs and the bumper stickers suggesting the last person to leave is to turn out the lights are a figment of someone's imagination.

However, on the positive side, the Hobbs Municipal School District reached their projected enrollment for this year on the first day of school and had 173 students over their projections on the 20th day.

The City of Hobbs has seen its Gross Receipts Sales Tax Revenue fall from an average of $958,000 per month in 1985 to an average of $657,000 per month in 1987. The City receipted close to $3 million less this year in Gross Receipts Sales Tax than last year which is a thirty percent decrease in its primary revenue source.

The drastic price decrease experienced in the past twelve months in the oil and gas industry has caused substantial problems for local governments. Specifically

for the City of Hobbs, the problems are both current and long-range and must be dealt with now.

One of the short range problems is financial stability. Until recently, the City of Hobbs received approximately 60 percent of its revenues from the oil and gas related industry. These revenues are derived from the exploration, production and servicing of oil and gas wells. When exploration or production is substantially reduced, the City's revenues are reduced.

Immediate relief must be obtained if cities such as Hobbs are to remain productive and cost effective. By statute the City of Hobbs cannot build a deficit, like the Federal Government. The lack of an import tax and other restrictions and taxes placed on the oil and gas industry will eventually lead to a drastic decrease in local services that will include essential programs and projects.

The City of Hobbs wholeheartily supports the withdrawal of 10,450 acres of State Land to the Department of Energy. Hobbs has no reason to believe that this acreage would not be managed in the same excellent manner that D.O.E. and Westinghouse have managed the development of the WIPP site. The D.O.E. and Westinghouse should be commended for its outstanding work, both at the site and with surrounding communities; choosing to become a part of those communities instead of a community in itself.

You gentlemen, as well as the entire United States government are to be commended for the foresight shown in

the planning and development of the Waste Isolation Pilot Plant. The WIPP site, without a doubt, has had a positive impact on our community and the entire Southeastern section of New Mexico.

Unfortunately, the City of Hobbs was not the squeaky wheel it should have been, and because of that, we did not get greased with a large influx of people or economic benefits from the WIPP Project. The City of Hobbs and many of its residents played a vital role during the 1970's in lobbying for the selection of the site between Carlsbad and Hobbs. At that time, we were told we would receive economic benefits as a result of the placement of the site in our area. But, what was promised and what is reality are two different things. Until nine months ago, businesses from Hobbs had received virtually no WIPP related contracts or work. When we discovered how to squeak, businesses in Hobbs were afforded the opportunity to bid on contracts and many are presently doing business that is WIPP related.

There is one major contract remaining to be awarded concerning the WIPP site. That is the transportation contract. This multi-year, millions of dollars contract, is of vital importance to Hobbs and Lea County. I urge and encourage each one of you to support the awarding of the contract to a New Mexico based firm and preferably to a qualified Hobbs firm.

The $58 million allocated to the State of New Mexico for repair of WIPP impacted existing roadways was granted in an agreement reached in the early 1980's. The terms of that agreement have changed. During the past year, the D.O.E. has decided to utilize Highway 62-180 for transportation of waste to the WIPP site. This highway is the logical selection that should have been made in 1980; however, this highway runs directly through the east portion of our City. Since the routes have been changed, it is the position of the City of Hobbs that the agreement should be changed to allow funding for road construction directly attributed to this change. A city delegation met with all of you in Washington, D. C. in January of this year requesting your assistance. The issue of road construction money for the City of Hobbs needs to be addressed and addressed immediately.

I believe it is time we continue our work in the area of waste disposal. There is not a better place or subject to continue with than a complete site characterization of the northern Delaware Basin located in Southeastern New Mexico as the site of a High Level Commercial Waste Repository. The City of Hobbs would like to encourage members of our Congressional Delegation to push for this area to be included in the site characterization study presently being conducted in three areas of our country. It appears that this area in southeastern New Mexico is well suited for such tests. The D.O.E. would also be

working in a friendly environment; that cannot be said about the other three sites. In a matter of national importance, no stone should be left un-turned. Without your help and assistance, the stone known as Southeastern New Mexico will be un-turned. We are not asking, at this time, to be selected the site for the repository. We are asking to be allowed the opportunity to participate in the process of site characterization.

Again, gentlemen, it is an honor for me to appear before you today. I look forward to continuing our positive and progressive working relationship with the Department of Energy and Westinghouse. Mr. Romatowski and his staff are to be commended for the overall development and operations of the WIPP site.

Thank you.

Senator BINGAMAN. Thank you very much, Joe. We appreciate that testimony.

Our next witness is the Mayor of Carlsbad, Mr. Bob Forrest, and Mr. Mayor, if you could maybe come over here, someone could let him take the center seat there.

We are anxious to hear your point of view, since your community is obviously affected greatly.

STATEMENT OF ROBERT FORREST, MAYOR, CITY OF CARLSBAD, NM

Mr. FORREST. Thank you, Mr. Chairman. It is an honor to be here today. It is an honor to have you gentlemen here to have these hearings, and it gives me a great opportunity to present my written proposal and just hit a few highlights on what I'd like to outline, and some of the things that I think that need to be addressed.

I'll just drop to the passage of Senate Bill 1272, that the additional language be embodied in that bill, Section 4, Subsection (f) concerning impact assistance.

We feel like this is a very important part of this land withdrawal bill, to do everything that we can to help with the economic conditions in Southeastern New Mexico.

As you know, in 1979, with the help of Senator Domenici and our other congressional leaders and our state leaders, that the bill was passed by our state by 96 to one, and it was House Energy and Natural Resources Committee Substitute for House bills 106, 360, 500, and 527.

The history of the WIPP Project goes back some 10 or 15 years. We've enjoyed the relationship that we've had with DOE, Westinghouse, Sandia, and the different agencies involved.

I think it just goes to show that these projects, if they work with the people in the state and the Federal and the local people, everyone working together, what can be accomplished to produce such a facility like we hope to opening October of 1988.

I also have, for the record, a letter from our eight City Council members endorsing this Land Withdrawal Bill 1272, and the Council Members Craig Stevens, Gary Perkowski, Dale Janway, Jack Skinner, Francis Barrett, A. E. Jackson, Julius Debravo and George Crump, for the record.

At this time, I would just like to say a few things about the WIPP Project and what it has meant to the economy of our city and what it has brought in in the way of dollars.

The total spending to date at the WIPP Project is $532 million. The 1988 budget is $80 million. The total cost of the project is $699 million.

The number of jobs that are current employed out there at the WIPP site today are 617 jobs, the total employment. 353 of these people are local citizens of our community.

When WIPP was first on board and when we talked about the early stages some 10 years ago, we were promised maybe 250 jobs, and today there's going to be close to 700 jobs by the time the facility gets open.

And for that, we appreciate what DOE and the congressional people and everyone's been able to do with the project.

One of our big projects that we're proud of is the acquisition of the TRUPACT facility. Through Congressman Richardson and Domenici and Skeen and Jeff, we've had the help, and this will be where we'll build these containers, to build the waste that will haul all the TRUPACT facilities will be assembled and built out here at the TRUPACT facility, some 35 jobs.

And we've had for the first time an opportunity for some of our young people who have left our community to come back with degrees and seek employment with this project.

At this time I'd like to thank you again for coming to Carlsbad, and appreciate your help on the WIPP Project.

[The prepared statement of Mr. Forrest follows:]

CITY OF

A great place to visit...a wonderful place to live

Mayor
BOB FORREST

City Administrator
CLAUDE TABOR

October 12, 1987

U. S. Senator Jeff Bingaman, Vice Chairman
Subcommittee on Public Lands, Reserved Water and Resource Conservation
U. S. Senate Natural Resources Committee

Presentation by Mayor Robert Forrest
Carlsbad Civic Center
Carlsbad, New Mexico

Re: S. 1272 - WIPP Land Withdrawal Act of 1987

Senator Bingaman, Senator Domenici, Representative Skeen, Representative Lujan, Representative Richardson:

On behalf of 28,000 citizens, I thank you for conducting this public hearing in Carlsbad to give us the opportunity to comment on S. 1272. We're grateful the senate legislation is sponsored by Senators Bingaman and Domenici, and that similar legislation is co-sponsored in the House by Representatives Skeen and Lujan. We thank you gentlemen for your efforts, now and in the past, regarding the WIPP project. Rest assured, as an elected official sensitive to the wishes of his constituents, I know the vast majority of our citizens heartily endorse your land withdrawal bills. However, for the record, speaking for the local units of government in southeastern New Mexico, we specifically urge the passage of S. 1272 because of the additional language embodied in that bill in Section 4, sub-section (f) concerning "impact assistance", which allows for assistance to local governments. We believe that provision is appropriate and fair, and is certainly needed.

As you well know, the WIPP project became a public issue in N. M. in 1978. Later that year, the U. S. Department of Energy signed an historic agreement with our Department of Health and Environment which provided substantial funding to our state to ensure our ability to independently scientifically judge this project. That funding, now $1 million per year, allows a group of carefully selected scientists, the Environmental Evaluation Group, to constantly monitor the project to protect the health and safety of our citizens.

In 1979, with the invaluable assistance of Senator Domenici, the New Mexico legislature passed, by a combined vote of 96 - 1, House Energy and Natural Resources Committee Substitute for House Bills #106, 360, 500 & 527. This law signalled the federal government of New Mexico's

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U. S. Senator Jeff Bingaman, Vice Chairman

Presentation by Mayor Robert Forrest (continued)

willingness to cooperate with the Department of Energy to make a final determination as to southeastern New Mexico's suitability to safely store defense-related transuranic nuclear wastes in underground salt beds. The law further provided New Mexico three important roles of participation in the project: 1) the N. M. legislature reserved the right to concur on the creation of a nuclear waste facility in the state; 2) an excutive task force representing the governor, consisting of three cabinet secretaries, was authorized to negotiate the project with the federal authorities; and 3) a legislative oversight committee was established, consisting of four senate members and four house members, to monitor and influence all facets of the project.

In 1981, the N. M. legislature, by a combined vote of 71 - 18, approved construction of the WIPP facility by repealing the concurrence provision with the adoption of Senate Bill 246.

The EEG, governor's task force, and the legislative oversight committee have continuously and diligently served their watchdog roles in the intervening years.

The point is, of course, we are convinced the development of WIPP has been carefully and responsibly monitored by the State of New Mexico each step of the process. We believe the U. S. Department of Energy and Westinghouse Electric have responded properly to every legitimate concern expressed by the state, with the result we, in Carlsbad, those most directly effected by the project, are comfortable the facility and the waste-handling procedures are extraordinarily safe.

Finally, Mr. Chairman, Carlsbad is proud and grateful for the opportunity to assist the nation in resolving, at least partially, a critical need, the proper disposal of a substantial amount of defense-generated waste, while at the same time we are reaping a considerable economic benefit afforded our community by the 600-plus well paid employees presently associated with WIPP in this area. We respectfully urge Congress to approve S. 1272 permitting this project to proceed to completion on schedule.

Best wishes,

Mayor Robert Forrest
City of Carlsbad

RF/js

CITY OF Carlsbad
A great place to visit...a wonderful place to live

Mayor
BOB FORREST
City Administrator
CLAUDE TABOR

October 12, 1987

U. S. Senator Jeff Bingaman, Vice Chairman
Subcommittee on Public Lands
U. S. Senate Natural Resources Committee

Re: S. 1272 - WIPP Land Withdrawal Act of 1987
Carlsbad Civic Center
Carlsbad, New Mexico

Senator Bingaman and Senator Domenici
Representatives Skeen, Lujan and Richardson:

As members of the Carlsbad City Council, we are pleased to endorse the land withdrawal concepts embodied in S. 1272 and a similar bill sponsored in the House of Representatives. We believe the provisions concerning requirements to meet EPA regulations, reimbursing the state for lost royalties, and the limited testing and retrieval of high level wastes are fair and adequate. We appreciate the "impact assistance" section.

We urge that Congress approve this bill as soon as possible so that the WIPP project can proceed on schedule.

Sincerely,

Craig Stephens - District 2

Frances Merritt - District 2

Gary Perkowski - District 4

A. E. Jackson - District 4

Dale Janway, Designee - District 2

Julius Doubrava - District 1

Jack Skinner - District 3

George Crump - District 3

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Senator BINGAMAN. Thank you very much, Bob. We appreciate your testimony here very much.

Our final witness on this local government panel is the Chairman of the Lea County Commission, Pat McCasland.

Pat, would you come over here to a microphone. We appreciate you coming over today for the hearing.

STATEMENT OF PATRICK W. McCASLAND, CHAIRMAN, LEA COUNTY COMMISSION

Mr. MCCASLAND. Thank you, Senator Bingaman

It is a pleasure to be here this afternoon, and on behalf of the people of Lea County, we thank you for coming. It means a lot to us to see the people that can control our lives so much, to come down and visit with us.

Thank you, each one, for coming to our home to hear our concerns regarding the Waste Isolation Pilot Plant, specifically the land withdrawal proposal. We welcome you.

Current economic instability, caused by the downward fluctuation of the oil and gas price has affected our area in a detrimental way. The adversity, though, will leave us stronger and more viable.

We are experiencing high unemployment, 9 to 11 percent, but it is coming down. Our school enrollment is down by 10 to 25 percent, but it is now increasing.

Venture capitalists have been reluctant in the past year to invest in the Southeastern New Mexico counties, but are starting to look at us more seriously.

Many businesses are and have failed, but many new ones have begun.

The current economic situation is caused by the instability of our monogamous relationship with oil and gas. We are becoming very aware that a polygamous economy is more stable and much more desirable.

Mr. SKEEN. That's a new way of putting that, I'll tell you. [Laughter.]

Mr. MCCASLAND. The WIPP Project represents one aspect of our ongoing diversification and ultimate stabilization.

I would respectfully—and I know why you were laughing there. I'm a biologist by trade, and those words mean something different. Bears are monogamous. I hated to have to say how bad it is over here, but I felt I should, and to preface what—as my testimony, as it continues, will reflect.

I would respectfully, on behalf of the people of Lea County, ask that the U.S. Senate and U.S. House of Representatives and the Department of Energy consider the following in regard to the permanent land withdrawal.

Number one, provide a method of reimbursement to local governments for dollars lost through tax base reduction. Very pertinent to us.

Number two, provide additional reimbursements for impacted local service. For example, emergency response equipment, emergency personnel training concerning nuclear waste hazards, law enforcement, local environmental monitoring, road maintenance and road construction.

Number three, prov.de communities with a safe place in which to live. All communities should be made aware of the potential hazards of the nuclear waste, and institute a program to bolster public trust and confidence.

Number four, provide a concise and well planned communications network between local governments and the DOE for the dissemination of information regarding current and future developments at WIPP.

The economic impact of the WIPP Project in general is and will be beneficial to Southeastern New Mexico. We from Lea County would vigorously call for more dispersion regarding these economic benefits.

We would ask that the DOE contractor hire more people, more employees from the Lea County cities, and respectively locate a portion of the domiciled administrators and scientists in Lea County.

We also view nuclear waste disposal and/or storage as a new industry and would encourage the DOE to characterize our area to determine whether high-level nuclear waste storage would be feasible at this time or in the future.

Thank you very much for listening.

Senator BINGAMAN. Thank you very much.

Let me ask just a couple of questions, and then I'll defer to my colleagues here.

I would like to ask Pat Darcy from Loving, you have indicated that you have two people in Loving who are working at the WIPP site now.

Do you know of others who are qualified and have applied out there? What is the explanation?

Mayor Forrest indicated 35-some-odd people are employed there, local people are employed there. Two seems like a pretty small number for Loving.

Mr. DARCY. I know the numbers that WIPP site puts out, that's the numbers he quoted. I quoted the same. We do have two workers from Loving out there. I did go out and talk to Mr. Cooper and I did go out and talk to Mr. Tillman, and I'm even—I mean, going by population.

The figure that Bob Forrest gave to the mayor from Carlsbad, I'm sure they're the same figures we got. We have two workers out of Loving.

I'm not up here trying to make a deal, I don't mean it that way. We have 1,400 people out there, and if two equals—into 356, whatever the number is, I don't see where the rest of these workers are coming from, because they're not coming from Loving, New Mexico. We've only got two down there.

Senator BINGAMAN. You also have complained that the village has, as you see it, received nothing in the way of assistance or an indication as to when assistance and training of any of your law enforcement or fire officials or anything to that effect.

Have you been able to explore that with the officials at the WIPP site or DOE officials, and if so, what did they tell you?

Mr. DARCY. The mayor and I went out and talked to Mr. Cooper and I believe Mr. Tillman also was called in.

Yes, we did discuss this and we found out that they had had a couple of practice runs out there, and the fire department that was going to be involved in it was out there. Loving was not there. We were never notified of any practice runs or anything.

I did ask if any fund would be available for special clothing, special training, and so forth, and the answer was no.

I would like to let the delegation know, I admit this is a Carlsbad WIPP site, however, we're right across the river, we're the closest responder to the WIPP site and yet we have been left out of everything.

We have not been involved in anything with WIPP. In fact, at first our village of Loving didn't even receive the information that we are now receiving from WIPP, the complete breakdown of spending of money, and so forth.

We were not even involved in that to begin with, and nothing did happen until the mayor did go up and start talking with them.

Once again, we got two workers out of Loving.

Senator BINGAMAN. OK. Thank you very much.

Let me ask Doug Perrin, if I could, or Tom Jennings, either one, you have indicated that you are anxious to get a response back from DOE as to whether they would be willing to comply with your ordinance with regard to transportation through Roswell, pending any kind of bypass being constructed.

When did you first request DOE to respond to that? Is this something you have been after them to do for some time?

Mr. PERRIN. I don't think so, Senator. I'm not sure that a formal inquiry has ever been made of the DOE concerning that.

Senator BINGAMAN. Are you planning to do that? I mean, we could certainly contact DOE or ask some of the officials who have come here about that, but it seems that the fair thing to do for them is that a request be made to them if there is a question about that.

Mayor Brainerd.

Mr. BRAINERD. Mr. Chairman, to my knowledge, no such request has been made. We would be glad to do so, but compliance with that ordinance, we don't think is voluntary. We plan to enforce it.

Senator BINGAMAN. You don't consider that like the War Powers Act?

Mr. BRAINERD. No. [Laughter.]

We don't mean to get in a scrap with them, but we feel that the situation with Main Street and its already dangerous condition, it's just going to make things that much more hazardous.

Senator BINGAMAN. Is it fair to DOE, though, to say that you—you have been given no indication from them that they had any intention to do anything but comply with your——

Mr. BRAINERD. That's fair.

Senator BINGAMAN. All right.

Mr. BRAINERD. We have no knowledge otherwise.

Senator BINGAMAN. Okay. Why don't I defer to some of my colleagues and let them ask some questions.

Senator Domenici.

Senator DOMENICI. Thank you very much, Mr. Chairman.

Let me say to all of you, it's a pleasure to be with you again and to have you here today to speak with us about your concerns.

Obviously, to the extent that we can do something about your concerns, I hope we can leave here today, whether we can solve them all or not, saying your concerns are ours. They are.

I want to just make a couple of statements for myself about the roadway system for the last 6 or 7 years, and then tell you a few things I think we can do, and maybe ask you all what you really mean about the highway situation.

I hear you, I know what you are saying, but I want to be very specific.

Let me just say, we all understand that we need more jobs in many of the communities here, especially since the oil crisis.

We all want as much of the work, including contracts, for WIPP to take place down here, as possible.

I am sure you know that there has been a decided movement in the direction of local employment and local contracts in the last 18 to 24 months.

It might not have affected each community in exactly the same way, but there is, at least statistically, more local contracts and more local jobs are occurring.

I want to tell you we will do everything we can with reference to future contracts, including the one you all have come to see us about with reference to both the trucking and the manufacturing of TRUPACT when we finally get around to its final design.

We have some preferences stated in this legislation and we will do what we can to make them even more so, if they are consistent with what we think we can get through the Congress.

I hope you understand that with some of the major construction contracts we have even pushed so that they are setting them aside for small business and for minority businesses.

We will do everything consistent with the laws. As I indicated, you know on major contracts our government has to put things out for bid, and we are pushing them very hard and I think this goes without exception on this delegation, to try to have as many of those contracts occur down here as possible.

On the roadway system, so you will know, I think we have to be fair at this point. We had an agreement between the State of New Mexico and the Department of Energy and it provided for $58 million worth of road improvements. That's where we stood until now.

Now we're talking about a dramatic enhancement of that. We are not even through with that $58 improvement program yet. I think we are up around $52 million. Inflation being ahead of the game, we still need another $40 or $50 million for those improvements, and those are not bypasses.

We will continue to work on it. We have the $58 million authorized and I am hopeful before we are finished with this process we will find a way to maximize New Mexico's opportunity to get the remainder of that money in a reasonably short period of time.

That still doesn't mean it is assured. We won't appropriate $190 million with this bill. It has to be phased in and we will have to work at it.

I believe the agreement between New Mexico and DOE, and I urge that you all look at it with reference to transportation, from what I can find, says the following:

"The transportation of radioactive waste to WIPP shall comply with all applicable regulations of the United States Department of Transportation and any applicable corresponding regulations of the United States Nuclear Regulatory Commission."

I think that is the agreement that is in effect. We surely don't intend to change that, do we, from what I can tell, in terms of our legislation. They will be at least bound by that limitation.

Now I want to ask two questions, and I really want you to think about it.

Some of you are indicating that you don't want WIPP to continue or to open up unless the roads are built; or, let's put it another way, you don't want any of the TRUPACT, even if approved by the Nuclear Regulatory Commission, on the roadways unless all of the road improvements have been completed.

I hope you aren't saying that, because if we win everything we want, we can't get that done very quickly, I guarantee you.

So maybe I have heard you wrong, but might I just ask, is anyone saying, maybe we'll do it this way and it will be easier, that we should not proceed to start the filling of WIPP even as a storage facility, which is not the disposal, but the storage facility until all these roadways are completed that you talked about?

Is anybody saying that's what you say in behalf of your constituents?

[No response.]

Senator DOMENICI. All right. Thank you very much. I misunderstood. So the answer is no.

Now, my second question, I think, Tom, you and Doctor, you testified that you didn't want this place opened——

Mr. PERRIN. Doug Perrin.

Senator DOMENICI. Excuse me. Doug, that you didn't want them to proceed to put waste there until it had complied with all required EPA regulations.

Would you explain what you think the situation is a little bit for me, that you make that statement on?

What are you really suggesting to us?

Mr. PERRIN. Senator Domenici, my concern is simply that the bill in its current form permits the storage, as I understand it, up to 15 percent of the total capacity before the EPA standards have completely been met, and that was a concern of mine, yes, sir.

Senator DOMENICI. All right. So you are suggesting that the portion of the bill which we have before us that says they can begin the storage, not the final disposal, but the storage, they can commence that up to 15 percent without the final EPA regulations for disposal.

You're suggesting you do not favor that? That's what is in the bill now.

Mr. PERRIN. Yes, sir.

Senator DOMENICI. You don't favor that?

Mr. PERRIN. No, sir, I do not. I can speak only for myself personally on that point, but that is true.

Senator DOMENICI. Well, what about the letter? It says that. Can you interpret it for me?

Mr. PERRIN. That was from Senator Tim Jennings, Senator Domenici. He asked me to read that for him today.

Senator DOMENICI. All right. So we don't have Tim here, we just have to read it and see what we think it says.

Mr. PERRIN. I guess so.

Senator DOMENICI. All right. Why do you conclude that we should not even start the research project of storage if it is in compliance with EPA storage regulations?

What has caused you to conclude that we should not even do that?

Mr. PERRIN. Maybe I misunderstood, Senator. If it is in compliance with EPA storage regulations, I would have no objection to that.

Senator DOMENICI. So that if the agreement that the State of New Mexico has entered into with the Federal Government, that is before us, we'll give you a copy of it, says that the Department of Energy shall comply with reference to storage activities, which shall not be more than 15 percent, we hope it can be less, with the storage regulations of EPA, then I assume you have no objection to that you think we ought to enforce that part of the agreement. Is that correct?

Mr. PERRIN. I would agree with that, Senator, yes, sir.

Senator DOMENICI. Thank you very much.

Senator BINGAMAN. Congressman Skeen.

Mr. SKEEN. Thank you, Mr. Chairman.

I think Senator Domenici has cleared up two of the most troublesome questions that arose during the testimony that came from the communities, and I want to begin by saying that I think I have a perfect understanding of what kind of a burden is on these local officials and these government entities.

You're the people that really handle the tough jobs on a day-to-day basis, because that's exactly what it involves, day-to-day operation of population centers in this part of the country.

With the impaction of the WIPP Project, that's one of the reasons why I wanted to state specifically in the opening statement that it was extremely important that the House Bill include that same provision that's in the Senate Bill and explained that it was left out, because I think that's a very important part of this thing.

What I have to say is more of a statement. I've heard about this fee system. Well, we proposed, or we had in mind at the beginning something called a reverse severance tax, not based on permission to come through the state or what you're hauling, because if you did that, you would have to fly it to almost—well, it would probably be unconstitutional.

But you would have to apply it to every kind of toxic or hazardous waste situation if you were going to apply it on transuranic waste or things of that kind.

I think that if you are going to talk about some kind of a fee system that benefits the State of New Mexico, you ought to do it on what's placed in the repository itself and make it repository specific.

That's just a suggestion.

I want to say to you that I would like to tell you that in this legislation, when we get through with it, it is going to do everything that we want it to do and guarantee, 100 percent, that your roads

are going to be built, the bypass and all the money is going to be there and everything, that isn't going to happen.

Legislation just doesn't work that way, not in this kind of—but we are dedicated to doing all of that we possibly can within the time frame, but the two major focuses of this bill still remain the same, and that's the withdrawal and the compensation to the state.

To accomplish that, I think that we're going to have to give and take a little, but still the major interest and focus we have is taking care of these other problems, such as transportation, impaction and all the rest, and you have had that kind of a guarantee from this delegation that is not a 100 percent guarantee, but I will tell you this, that's our major interest, is getting these things done, taking care of these problems, and the transportation of this material into the State of New Mexico and depositing it here at WIPP site.

So, I appreciate very much the attitude of flexibility, at least, and you being here today to talk about these questions, but in giving us enough breathing room to accomplish it.

That's all I have to say, no questions. You have done a very good job, I think, in presenting your case, and we appreciate working with you, and we hope that it is of great benefit all over the——

One last thing. You know, in looking at the overall State of New Mexico, as far as technological advancement and new sciences, and so forth, here on the Lower Pecos it has been a little bit sparse.

The Rio Grande Corridor is operating and doing a good job, with the great interest there and that development up and down the Rio Grande.

We have always been a little bit of a stepchild as far as that kind of activity and dedication in the State of New Mexico.

This is our opportunity to, I think, enhance not only New Mexico in general, but our area in particular, as a part of the scientific contribution and a frontier of new knowledge and data processing and data acquisition insofar as this technology is concerned.

I hope that it is a benefit to you and I hope that it goes far better in proportion for Loving and some of the other communities and that it spread throughout this area because we do need to loosen our dependence on monogamous relationship with one resource. [Laughter.]

I really like that expression.

So thank you very much for you being here today and for your attitude and all of the rest of it. It's great working with you.

Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you very much.

Congressman Richardson.

Mr. RICHARDSON. Thank you, Mr. Chairman.

I'd like to get on record some of the city officials on what I think is a very positive suggestion by Mayor Brainerd, since he endorsed what I have been proposing and I guess Senator Domenici today, and that is that as part of the bill the bill include an authorization for $190 million for the roads, for the bypasses, an issue that has been alluding us as we proceeded with this legislation.

Mayor Brainerd, unless I'm mistaken, I have heard you that you would like to see this in the bill, and I'd like to ask the other

mayors if they share the view of the distinguished Mayor of Roswell.

Mr. Thompson.

Mr. THOMPSON. I would like to say that I think that any haulings—these highways should, construction should begin, I don't say it has to be finished but I do think that we should have some indication that someone is concerned about starting to take care of these situations.

I do think training is a very important thing. I don't see any move made to train local people to handle any kind of a disaster.

Mr. RICHARDSON. Mr. Darcy.

Mr. DARCY. I'm not the Mayor of Loving. However, we did discuss the same thing you're talking about, and yes, the Village of Loving will go on record as supporting your bill.

Senator BINGAMAN. That isn't what he wanted you to say.

Mr. RICHARDSON. Mayor Brainerd's amendment, do you support that?

Mr. DARCY. Yes.

Mr. RICHARDSON. All right.

Mr. THOMPSON. I'd like to say something. I didn't have a copy of this bill until the senator sent it to me. I believe I got it Friday, and I have not had time to read the bill, so I do thank you, Senator, for finally sending it to me, but I would have liked to have had it sooner.

Mr. RICHARDSON. I think you're welcome. [Laughter.]

Mr. BRAINERD. I think that the agreement that was reached between the state and the DOE is adequate as it applies to the $190 million.

Mr. RICHARDSON. So you don't think we should put it in the bill, you don't think it is necessary.

Mr. BRAINERD. I don't think so. I think that that might delay the bill, and I just agree with the state's agreement, what they worked out with the DOE.

Mr. RICHARDSON. All right.

Mr. MCCASLAND. I'm Pat McCasland from Lea County.

I would have to say that we want the money, and if we're not going to get the money through this agreement with the state and the DOE, that we ought to have it in this bill, or an amendment to it, or such as that, I'd agree with it 100 percent.

We don't want to make anyone mad, of course, but $190 million is a lot of money and they can build a lot of roads and keep a lot of us safer down here close to the epicenter of the WIPP site.

Mr. RICHARDSON. I think, Mr. Perrin, you have stated your position.

Mr. PERRIN. Yes.

Mr. LOVING. I'm Joe Loving from Hobbs, and I think our position on your amendment would be that we're not opposed at all to attaching that amendment to Senators Domenici and Bingaman's bill, as long as it doesn't get pushed to the point that it jeopardizes the WIPP Project.

Mr. FORREST. I'm Bob Forrest, and I'd just like to echo Mayor Loving's words, that we are for it, but we sure hate to see the WIPP site be held up because of the funding.

Mr. RICHARDSON. Mr. Chairman, with those endorsements, I will cease asking any more questions. [Laughter.]

Senator BINGAMAN. Congressman Lujan.

Mr. LUJAN. Thank you, Mr. Chairman.

Just very quickly, I think what you have all said is very true, that it's nice to get all kinds of things in a bill, and I'm not saying that I will oppose it or anything like that.

But we came here 20 years ago to make a permanent land withdrawal and get all hung up in all kinds of different arguments. It may be a long, long time before we get a permanent withdrawal, and then there will be a temporary withdrawal without any of these safeguards that we are talking about.

So it is important that we get it passed and get moving on the bill.

One question I had, because I'm a little confused about what we need. There has been several references to emergency response equipment and training.

This morning we heard from the Chairman of the State Emergency Response Commission that the activities of the WIPP site should not dramatically raise the level of need for overall emergency response capabilities.

What kind of equipment are we talking about?

Does the WIPP, the location of WIPP here, give rise to some pending disaster or something like that, other than the transportation?

Are people saying it's going to blow up or what?

Mr. BRAINERD. Congressman, I'll try to answer from our standpoint in Roswell.

We're not concerned about a disaster at the WIPP site. What we're talking about, let's say at Second and Main a WIPP truck is involved in a collision.

We don't know what the requirements would be to investigate that. We don't have any equipment for radiation leak. We don't have the personnel who are really trained to handle an incident like that, and to assure the citizenry that there is no danger.

It's on that idea of—the responder, I think, is what the people this morning were talking about, the first ones on the site, and then there will be a state police representative designated in these instances.

But what we're talking about is just the first responder, how do you handle this, what equipment, I couldn't even tell you what equipment would be needed.

Mr. LUJAN. So the emergency that we're talking about is all related to the transportation factor?

Mr. BRAINERD. As far as anything that we've been talking about, and that's the way I understood it this morning.

Mr. THOMPSON. Mr. Chairman, we have a lot of hazardous material already in our community. We have the largest refinery in the state, located within the city limits. We have numerous butane, propane, anhydrous ammonia, anhydrous acid, tetraethyl lead, all of these things are on our highways and right on the street that you're talking about hauling this material on.

Say you had a collision with a truckload of waste material and a truckload of tetraethyl lead, it would compound the problem.

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So we don't have the finances to pay for the people to take care of this kind of a situation. This is what I'm talking about. And we don't have the proper training of the people.

What would happen if this happened tomorrow? Our people have not been trained in this kind of a situation.

Mr. LUJAN. Again we're talking about transport related problems.

Mr. BRAINERD. Right. That's my big concern.

Mr. LUJAN. All right. Thank you.

Senator BINGAMAN. Did you have other questions?

Mr. LUJAN. No, that's it.

Senator BINGAMAN. Congressman Richardson, do you have another question?

Mr. RICHARDSON. Yes.

Doug Perrin and Tim Jennings, I have before me a petition that several citizens have submitted from Roswell, and they're appended to your testimony.

I just want to make sure, because in the dialogue with Senator Domenici I was unclear of your intent on the EPA standards.

Let me just read this. The letter is addressed to the delegation, and it's signed by a number of people, and it says, we support the following:

One, full compliance with Environmental Protection Agency standards by the Department of Energy and WIPP before any waste is placed at WIPP.

You don't support the 15 percent provision, you feel that should be zero percent, that there should be full compliance before any waste is delivered. Is that correct?

Mr. PERRIN. I may be confused, Congressman Richardson, about exactly what we're talking about.

I understood from Senator Domenici that the EPA standards on storage were being met, and again I'm speaking only for myself personally. I'm not sure, of course, what all these people may have had in mind when they signed the petition.

But so long as EPA standards are being met for the activities that are being undertaken at the site, I have no objection.

Mr. RICHARDSON. All right. Now, this group also says they support the elimination of the high-level waste experiments at WIPP.

Now, this is a view of a group of citizens of Roswell, not necessarily the City Council or the Mayor.

Mr. PERRIN. I don't believe I can say what the position of the City Council is on that issue, Congressman.

Mr. RICHARDSON. OK. I just wanted to clarify that.

Thank you, Mr. Chairman.

Senator BINGAMAN. Pete, did you have another question?

Senator DOMENICI. Well, I just want to say to all of the elected officials before us, that on the roadway system, I just want to say one more time for myself, we had an agreement that said we were going to get money for improvements. I'm not in any way trying to make things appear difficult, but I want to tell you that for four consecutive years we had to put the money in the appropriation bill all by itself, free standing, with no legislation around, and we made a little headway.

I don't think we should leave with any idea that any of us know of an easy way to get $190 million plus the 45 to 50 which I think is still left over from the roadway improvements agreement.

I know of no one that has yet found a way to bind Congress for four or five years unless we create some new entitlement here that's automatic.

So we are going to have a lot of work to do up there pushing that, even if we get it authorized, we will need your support and help, and support and help of the Governor to get it done, year by year, and we will need the support of the Administration.

I think it's fair to say, in all honesty, we need a lot more support than the administration gave us on the 48 and the 58, there isn't any question about that.

We would like very much to make it a transportation project and I hope you will help us with that, not a Department of Energy project, because it just takes away from all the other projects in the Department of Energy.

So that's where we are moving. I don't know whether we will put it into law. We'll try. If it holds up the bill and we can't get it through, we'll try another way.

But we did get $48 million without any authorizing legislation. Now we have part of it authorized, so I mean, there is no clear answer either way, it's just we're going to have to push it collectively and use all our strength back there and then ask the administration in consideration for us moving ahead that they live up to this agreement and push very hard, perhaps year by year push them to put it in their budgets or some such thing.

I just wanted to share that with you so you won't misunderstand the situation, at least as far as I see it.

Thank you very much.

Senator BINGAMAN. Thank you. If there are no other questions, let me thank the entire panel. Thank you all for coming. We appreciate your testimony. If you have other thoughts, again let me reiterate that the record of the hearing will be open for 30 days and we would be glad to hear any other views you have during that period.

Thank you all very much.

Our next and final panel is a panel of concerned citizens, and let me just read off the names of the members.

Joe Goldberg, Roger Anderson, Roxanne Kartcher, Robert Aly, William Baggs and Don Hancock.

All right. Are we about ready here?

OK. Why don't we go ahead and get started with the final panel here.

The first witness is Joe Goldberg, who is the Chairman of a group called Make WIPP Safe.

He is an Albuquerque attorney. He is the former Secretary of Health and Environment here for the State of New Mexico.

Joe, we appreciate you coming all the way to Carlsbad. We are glad to have you.

STATEMENT OF JOE GOLDBERG ON BEHALF OF THE COMMITTEE TO MAKE WIPP SAFE

Mr. GOLDBERG. I appreciate the opportunity to be here, Senator Bingaman. I thank you for inviting me to participate, and I thank the members of our congressional delegation.

I think it's remarkable and it's an excellent demonstration of government in operation that all members of our congressional delegation would be here at Carlsbad on an important issue involving the land withdrawal bill and how that impacts on WIPP.

One correction, I understand that it states that I'm the Chairman of the Committee to Make WIPP Safe. I am not. I'm just a spokesman for them. I am here on behalf of the Committee to Make WIPP Safe, as well as myself.

The Committee to Make WIPP Safe, I want to start out by identifying the committee. It's an informal group. It is not a membership committee, to be sure.

It is a group of concerned citizens who have essentially expertise in the medical and health sciences and some others. I do not, of course, I'm just an attorney and an academic.

Our position is not opposed to the WIPP facility. We do not oppose the WIPP facility. I'll speak here now personally. I view the WIPP facility much like I do the Sandia Mountains, they're there, they are part of the reality. It's a part of the reality that we must deal with.

The position of the committee is that WIPP is part of the reality and the job now is to make sure that that facility is a safe facility, is a facility that will carry out its mission consistent with the health and well-being of the people of the State of New Mexico and people in the surrounding communities.

And that's our major concern, as I know it is the concern of all of the members of our congressional delegation and as I know it is the concern of the people in the Department of Energy.

Our position with respect to the land withdrawal bill, our concerns lie in three areas, all of which I understand you have addressed very thoroughly today.

First, we deal with the transportation issues, and our position is that the land withdrawal bill is a good vehicle to assure that the monies for the transportation issues are there, and I will focus my attention to not just the road construction and the bypass issues, but also the issues having to do with the capability for emergency response in case there is an accident.

Our second concern is in the area of the EPA standards, and I understand that those have been highly controversial concerns today, as they have been in the past, and I would like to spend a little bit of time on EPA standards and our position, which is that all applicable EPA standards, as well as other standards, should be met prior to the deposit of waste in the WIPP facility.

Our third area of concern is in the area of high-level nuclear waste, largely in the area of the high-level nuclear waste experiments, because I believe that essentially, as I read in the newspapers, at least, the question of a commercial high-level nuclear waste repository in any way connected either with the WIPP facili-

ty or in this geographic area is not a real issue anymore, that that's unlinked, so to speak, from the WIPP.

I want to turn first to the transportation issues that captured the attention of the committee in the last session and specifically in terms of the questions that Representative Lujan posed about what kind of concerns may be there.

First, I want to make it clear that I don't think anybody is hoping for or anticipates that there are going to be transportation accidents or disasters, but it is prudent, as the committee has indicated, that we face the potential for that because if everything goes great, then everything goes great, and there's not a need.

But what you don't want to have happen is that there be an accident or a disaster and one hasn't at least addressed the issue and tried to deal with what is necessary to deal with that type of situation.

Our group supports sufficient monies to take care of the road and transportation issues. We support the bypasses. Those are terribly important. I don't in any sense seek to minimize that, but that has been addressed in the last panel, and I understand has been addressed prior to that.

The state government, General Stratton, the Governor have negotiated with the Department of Energy, they have come up with $190 million figure.

I certainly have no reason to say that that figure is too much or not enough. It seems like a figure that will provide for the transportation route issues.

I want to address something slightly different, and that is what is going to be done to assure the capability of the network of emergency response around those transportation routes and here around the WIPP facility.

I know from my experience as the Secretary of the Department of Health and Environment here in the state that our emergency response network in New Mexico is over extended and under funded.

It's just as simple as that.

I know, as well as the committee knows, that the transportation of nuclear waste throughout the highways of New Mexico are going to pose new and different and substantial risks to the people and to that network of emergency health response.

And so I think it is important that we deal with that. This network needs to be trained. That training needs to be repeated, at least during the period of time that the transportation is going to proceed through the State of New Mexico.

New and different equipment, state-of-the-art equipment is going to be needed for that. Respectfully, I do not think that that is the type of capability that we ought to expect the State of New Mexico government or the local governments to bear entirely.

It is not because I necessarily—in state government sometimes I have been viewed as perceiving certain things as cash cows. It's not because I view the WIPP as a cash cow, but I think that in fact this is a national concern and not just a local or parochial concern.

I think the ability to do this safely and present to the nation an ability to do these things in a model way and a safe way requires the resources of the national government.

I have a very specific suggestion, and I do this with some considerable trepidation because I know that all of you are experts in the ways of Congress, and Senator Domenici, from his experience on the Budget Committee, probably knows as much as any about how you can or cannot get money from, through the appropriations process.

But my suggestion is, since I don't think for the purposes of the national treasury on this emergency response issue, you're talking about a huge amount of money.

I think the way in which we can create the capability and not have to go back repeatedly for appropriations is to appropriate one lump sum that is sufficient to yield in return enough money to handle the training and the equipment needs over the period of time that we expect that's going to be necessary, whether it's 20 years or 30 years or 40 years.

We're not talking about a huge amount of money here. It would obviate the need to go back repeatedly for appropriations and supplemental appropriations.

So I call this sort of a trust fund, in the appropriations process of a trust fund if a trust fund can be created in addition to the $190 million plus the $58 or $54 million that's left over from the last go-round.

In addition to that, a small amount of money that would create a trust fund that will assure that the network of emergency responders will be adequately trained, adequately equipped, adequately financed for this important service.

I think that we will have done something that's not only important for the WIPP but will be a model for the country in other situations.

With that, I want to turn to the EPA issue, with some degree of trepidation, I might add.

I would like to give a little history, at least as I have seen it and participated in it.

In 1984 I signed on behalf of the State of New Mexico the first amendment to the C&C agreement. That's the cooperation and consultation agreement. That amendment provided, without qualification, that all federal, state and local standards, and specifically included the EPA standards, would be met.

What that represented to me, Members of the Committee, was a commitment, a contractual commitment by the Department of Energy that they would meet all EPA standards.

And this was not a matter of inadvertence, it was a matter of some heated negotiation between the representatives of the state and representatives of the Department of Energy.

With that understanding, I executed that agreement.

In 1987 the State of New Mexico executed a second amendment to the C&C agreement, and in the Senate bill that is before the committee, that is the subject of the committee's hearings today, which I have in front of me, in Section 7, I believe, both reflect what I perceive as a relaxation of those standards that allow the Department of Energy to deposit in the site up to 15 percent of the total capacity of the site with nuclear waste without meeting the Subpart B.

For purposes of discussion, I'll call it Subpart B, EPA standards. We oppose that.

My understanding is that the Department of Energy now takes the position that this is really not a change or a retreat because this is not disposal, this is storage, and that there is an operative distinction between disposal of nuclear waste and storage of the nuclear waste.

I will say to the committee first that that was not a distinction or an operative distinction that was understood or discussed between me and the Department of Energy in 1984 and it was not a distinction that informed my determination to sign that C&C agreement.

I'll also state to the committee that my understanding that there was not such a distinction is fully supported by the Department of Energy's own documents.

If there is a distinction, Members of the Committee, if there is an operative distinction between storage and disposal of nuclear waste, it is not a distinction that shows up in the final environmental impact statement of the Department of Energy on the WIPP site itself.

I want to read from the 1981, January 28th, 1981, Federal Register, which is the Department of Energy's decision on the Waste Isolation Pilot Project.

I have reached the point where I can't read with my glasses on and I can't see with my glasses off.

I quote now from the actual decision itself. It says, the WIPP Project, which is described as Alternative 2 in the final environmental impact statement, that is the FEIS, October 1980, will be developed, and here now they quote from the FEIS, and this is the Department of Energy itself speaking in this decision.

> As a defense activity of the DOE for the express purpose of providing a research and development facility to demonstrate the state disposal of radioactive wastes resulting from defense activities in the programs of the United States.

It doesn't say anything about storage.

Now, I will say initially the distinction between storage and disposal is not one that leaps to my mind, and I have been accused of being someone who finds distinctions often where they don't exist, as a law professor, but it's not a distinction that leaps immediately to my mind.

But if there were to be such an operative distinction, it would be one, I would suggest, that would require the Department of Energy then to go back and redo their environmental impact statement.

I'm not suggesting that at all. What I'm saying is that it seems to me that this is an after-the-fact distinction that is being presented by the Department of Energy.

I don't think it's the type of distinction, given the issues that are involved, I don't think it's the type of distinction that ought to be made the basis of an important decision with respect to these health and safety issues.

If it is the determination of the Department of Energy and the Congress that they want to relax the standards, then the standards should be relaxed.

We oppose that. But it should not be done in a way that says that there's a distinction between storage and disposal of nuclear waste at the WIPP facility.

It's not a distinction, at least, Members of the Committee, that was presented to me or informed my judgment back in 1984, and I suggest to you respectfully that it's not a distinction upon which one ought to be making this type of important decision, because what happens in this bill and what happens with this facility is not just going to affect the WIPP, it's going to be a statement of legislative intent that is going to be taken more generally.

We're going to have other facilities, not just in New Mexico, but around the country, and we ought not to, for purposes of the WIPP facility, create a distinction in our regulatory function.

And I think that the EPA standards should apply to the WIPP, and I think the EPA standards should apply to WIPP as they are intended to apply to the WIPP, and I don't think there ought to be a relaxation of those standards.

So for those reasons, Members of the Committee, our group is opposed to Section 7. And our recommendation is, first, that you should put into Section 7 a statement that states expressly that all EPA standards will be met, and will be met prior to the deposit of waste at the WIPP facility.

At the very least, since this is a matter that is very difficult, I concede, and complicated, for purposes of the regulatory law, perhaps at the very least what ought to occur is that all of that language in Section 7 with respect to express, what could be perceived as a relaxation of the federal EPA standards, should be removed from the bill and then let the regulatory agency deal with the DOE on it, and if necessary, let the courts have to resolve the issue afterwards.

The third area I want to turn to is in the area of the high-level waste at WIPP.

Again, the original C&C agreement, the original decision and designation of the site, as well as the first amendment to the C&C agreement, all recognized high-level nuclear waste experiments at the WIPP site.

And the high-level nuclear waste experiments are fully consistent with WIPP up until now.

I suggest, and the committee supports, eliminating the high-level nuclear waste experimentation at the WIPP site. We do so for the following reasons.

Essentially, this is a risk-benefit analysis which you have to go through yourself, and that is, what are the risks and are the benefits that we will get from those risks sufficient to justify those risks.

Well, since 1984 events have occurred and information has been obtained which dramatically alters the risk-benefit analysis.

I think it is fair to say now that the benefits that we would get from the high-level nuclear waste experiments at WIPP are substantially diminished, and the risks of having that high-level waste at WIPP for the purposes of the experimentation have substantially increased.

For those reasons, we oppose the high-level nuclear waste experiments at WIPP and we would suggest that the land withdrawal bill

require that that part of the WIPP mission be changed and the high-level nuclear waste experiments be eliminated from the WIPP mission.

Of course, we are also opposed to in any way linking the WIPP with commercial nuclear waste disposal or having, because we have the WIPP site here in New Mexico, say that that is a reason for having commercial nuclear waste disposal in New Mexico.

That should operate on a separate track completely, and my understanding of the legislation is that New Mexico is not included.

I thank you very much for your patience, and that concludes my testimony.

[The prepared statement of Mr. Goldberg follows:]

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STATEMENT OF JOE GOLDBERG ON BEHALF OF THE COMMITTEE TO MAKE WIPP SAFE SUBMITTED TO THE SENATE ENERGY AND NATURAL RESOURCES COMMITTEE FIELD HEARING ON THE PROPOSED WIPP LAND WITHDRAWAL LEGISLATION, SENATE BILL 1272

October 12, 1987

Good afternoon. I thank Senator Bingaman for the opportunity to participate today. I would also like to thank all the members of our Congressional delegation who are here today to address the implications of permanently withdrawing public lands for storage of radioactive wastes at WIPP.

My name is Joe Goldberg. I am an attorney from Albuquerque and I am speaking on behalf of the Committee to Make WIPP Safe. The Committee is a nonpartisan group of professionals and citizens committed to ensuring that public health and safety is protected during and after transportation and storage of nuclear wastes at WIPP. Our Committee is not opposed to WIPP; rather we view it as part of the reality with which we all must deal. Recognizing that reality, our goal is to advocate that all possible measures be taken to ensure the safety of the project and the safety and well-being of New Mexicans.

I have served as the Secretary of the New Mexico Department of Health and Environment, and in that capacity I was Chairman of the State's Radioactive Waste Task Force. During my service, the State and the United States Department of Energy (DOE) negotiated the First Modification to the "Agreement for Consultation and Cooperation" (C&C Agreement). And lastly, I am speaking as the father of two children recognizing the responsibility I have to ensure a safe future for them, and future generations, in New Mexico. While in state government I visited the WIPP site and came to understand the enormity of that responsibility and of the task for ensuring public health and safety over the next several thousand years.

The Committee to Make WIPP Safe has three major areas of concern regarding the land withdrawal bill: 1. the need for adequate funding for transportation safety and emergency response; 2. the need for DOE compliance with EPA standards before any waste is deposited at WIPP; and 3. the elimination of the high-level waste experiments at WIPP. Each of these issues is discussed below.

1. TRANSPORTATION SAFETY AND EMERGENCY RESPONSE

First, before the passage of any land withdrawal bill, Congress should appropriate funding for transportation safety and emergency response preparedness. Under the current mission of WIPP, New Mexicans can expect at least 1450 truckloads of plutonium-contaminated waste travelling through the state every year for the next twenty years. These trucks are currently

projected to travel through at least 14 counties and through more than 50 communities, many of which do not have adequate emergency response capabilities.

Although the plutonium-contaminated wastes coming to WIPP have been categorized by some as presenting minimal risk, I'd like to share our viewpoint on the risks. Generally recognized health standards establish that the maximum amount of plutonium that an individual is allowed to be exposed to over a lifetime is 0.6 micrograms. These levels are the lowest for any of the radioactive elements. This is because of plutonium's great toxicity and its ability to concentrate directly in the radiosensitive blood-forming sections of the bone. One of the toxic risks associated with plutonium poisoning is cancer. To get an idea of how little 0.6 micrograms is, take a single grain of common table salt and divide it into 100 parts and take just one of those parts and you have the equivalent in size of the maximum permissible dose to an individual from plutonium contamination. Just one transportation accident, especially if fire is involved, would present a grave risk to the driver, the emergency responders, and those near the accident or downwind of the accident.

Additionally, a small portion of the remote-handled transuranic waste coming to WIPP will involve a high level of penetrating radiation from the cannisters -- between 100 to 1000 rems of radiation per hour. This radiation dose is equivalent to between 400 and 4000 chest x-rays. In fact, an individual at the scene of an accident involving this remote-handled waste could receive an LD-50 dose within that hour. The LD-50 is the dose at which 50% of those persons exposed would die of acute radiation syndrome -- this

dose at which 50% of those persons exposed would die of acute radiation syndrome — this dose is in the range of 240-340 rem. Though admittedly these cannisters will be housed in specially made casks and limited in number, there is still a chance of an accident breaching the cask. This is a contingency with which we must be concerned, and our emergency responders will have to be prepared to handle this type of serious accident, even if the chances are slim.

Because of the risks associated with transporting nuclear waste and the need for emergency response preparedness, the DOE signed agreements with the State of New Mexico agreeing to fund improvement of the state's highways that would be used in transporting these plutonium wastes, secure $190 million dollars for the construction of several by-passes around certain communities, and to provide funding for training and equipping emergency responders. To date, the only actual monies the state has in hand is for the upgrading of some of the highways. We would feel much better about transportation and accident safety if the state of New Mexico had these monies in hand now. Roads should be upgraded, by-passes should be constructed and a strong emergency response capability should be in place before any wastes are transported to WIPP.

RECOMMENDATION:

We recommend that the land withdrawal bill be passed by Congress only after monies have been appropriated by Congress to cover the costs of DOE's written agreements on transportation safety, community by-passes, and

emergency response training and equipment. Our suggestion for funding transportion needs, emergency response training and equipment, as well as other health and safety concerns, is for a one-time appropriation to be placed in a permanent fund sufficient to generate enough monies to fund these activities on a continuing basis.

2. COMPLIANCE WITH HEALTH AND SAFETY STANDARDS.

Second, we strongly oppose the provision in the bill which would allow the DOE to store up to 15% of the total volume of the waste -- almost 1 million cubic feet -- before WIPP has to comply with Subpart B of the EPA standards. This unprecedented action -- any other such waste facility must comply with these standards before any waste is emplaced -- would unnecessarily compromise the health and safety of New Mexico citizens. Subpart B establishes several different types of requirements in order to protect public health, safety and the environment from the radiological hazards associated with the disposal of transuranic wastes.

For example, the Containment Requirements provide that a disposal system be designed to adequately contain projected radioactivity releases for 10,000 years after disposal. The Assurance Requirements establish several types of assurances to further guarantee the long-term containment of radioactive wastes. These requirements include, among others, post-disposal monitoring, engineered barriers to isolate wastes from the accessible environment and active institutional controls relating to access to a site and controlling or cleaning up releases from a site. The Individual Protection Requirements

establish radiation exposure limits for members of the public. The Ground Water Protection requirements set standards to prevent radioactive contamination of ground water from the disposal system. We believe that if DOE cannot demonstrate Subpart B compliance prior to waste emplacement, this may subject New Mexico and its citizens, as well as surrounding states, to unnecessary risks associated with transportation, emplacement and retrieval of radioactive wastes, should retrieval be necessary if the DOE cannot comply with these standards after wastes are emplaced.

Furthermore, when I signed as Secretary of Health and Environment the First Modification to the C&C Agreement with the DOE, that agreement stated expressly that DOE would comply with all applicable state and federal standards, regulations and laws, including those promulgated by the EPA. The clear intendment of that Agreement was that compliance would be accomplished prior to placing waste in WIPP. I fear that the recent amendment to the C&C Agreement, and the similar provision in S.B. 1272, represents a retreat from those protections built into the 1984 Agreement.

The DOE wants to bring nuclear waste to WIPP beginning October, 1988, a year from now. The EPA standards, however, are in doubt because a federal court has recently ruled that the then existing standards were not adequate to protect health and safety. While we understand DOE's great desire to meet its deadlines and open the WIPP for operation in October, 1988, we would not like to see these deadlines met through corner-cutting and relaxation of health and safety concerns and standards. Certainly, there is nothing sacred about these deadlines. If deadlines have to be pushed back somewhat in order to assure

compliance with health and safety standards, we do not believe that any such temporary delay is too great a price. It just doesn't make sense to us that the health and safety of New Mexicans or people in surrounding areas should be compromised because of a desire to meet arbitrary deadlines.

The risk that the EPA standards applying to WIPP will not be met before waste is stored raises some serious questions about the WIPP site itself. Can the WIPP facility, in spite of the DOE assurances and promises, actually meet the minimum EPA requirements? Why can't the EPA standards be implemented before waste is brought to WIPP?

It seems to me that given the risks involved, it makes little sense to permit deposit of this nuclear waste prior to demonstration that all EPA standards are met. Fifteen percent of the WIPP capacity amounts to approximately 1 million cubic feet of wastes, or in other measurements, approximately 3500-5000 truckloads of shipments. If the EPA standards are not met, I fear that the choices then available to DOE, the state and federal government are immeasurably more difficult and unattractive because the waste is already deposited in WIPP. Do we know that the waste can be safely retrieved? What risks are involved? The risks associated with transportation will have been unreasonably doubled. Has consideration been given to where the waste would be removed to, even if it can be safely retrieved? Respectfully, I suggest that the choices available to our elected leaders will be hard, even awful choices. Should the waste be retrieved at WIPP even though EPA standards are not met, thereby posing substantially and unacceptably increased risk to New Mexicans and people in the surrounding area? Alternatively, should the waste be removed to another place, posing

similar risks to others? For these reasons, we suggest that Congress not allow deposit of waste at WIPP before EPA standards are met.

In closing the EPA portion of this testimony, I would like to point out that we have before us a bill which discusses the application of EPA standards when in reality there are no EPA standards as of this date because of the recent court action. We assume the bill is referring to the final set of EPA standards yet to be promulgated, since the old ones have been vacated by the court as inadequate to protect health and safety. Also, we are concerned by a provision in the old EPA standards which essentially renders them non-binding; that is, a provision which would allow "Alternative Standards" to be developed between the EPA and the DOE that would differ from those promulgated. This would allow the DOE to "opt out" of complying with any portions of the EPA standards they couldn't meet. We, of course, strongly urge that language relating to the EPA standards state that DOE will comply with the maximum protection afforded under the EPA standards and that New Mexico not be afforded any less protections than that provided to other states under the Nuclear Waste Policy Act. This means not allowing DOE to get out of the final EPA standards by invoking the "Alternative Standards" provision.

RECOMMENDATION:

We recommend that Section 7 be amended to make it clear that all EPA standards (as well as other federal and state safety standards) be met prior to placing any radioactive waste in WIPP, and that the DOE not be allowed to weaken the EPA standards by invoking the "Alternative Standards" section if such a provision will be contained in the final EPA standards. At a minimum

we recommend that Section 7 of the bill be deleted in its entirety.

3. HIGH LEVEL WASTE EXPERIMENTS.

Third, the proposed high level waste experiments at WIPP should be eliminated. The experiments will add unnecessary danger both on and off-site; they are a waste of taxpayer money since the data that would be gathered, according to DOE's own internal documents, is no longer necessary. We believe that our increased knowledge of the geologic and hydrologic characteristics at the site raise serious questions that these experiments may pose a greater risk than originally anticipated. Furthermore, we are concerned that the high-level waste experiments once emplaced will enhance the possibility for high-level and commercial waste disposal at WIPP, contrary to DOE agreements with the state and WIPP's current mission of being used only for permanent disposal of transuranic military waste.

The purpose of these "experiments" with high level waste has never been clear. The stated purpose is to help in the planning and design of commercial and defense high level waste repositories. But only one out of three sites currently under consideration for a HLW repository is in salt and even for salt, the results obtained at WIPP may not be transferable to another salt site. The DOE's own Inspector General issued a report in 1981 entitled "The Potential for Cost Reduction in the Waste Isolation Pilot Plant (WIPP) Project" (DOE/IG-0207 dated 6/18/84) in which he criticized the DOE for wasting money on high-level waste experiments at WIPP since the results may not be transferable to a salt site, even if one is chosen for high-level commercial and defense waste.

New geotechnical data has become available to us from WIPP and this new information indicates a serious possibility of problems in the retrieval of high-level waste at the end of the experiments (20 years). Specifically, we are referring to the creep rate of non-heated salt at WIPP being three times higher than predicted and the fracturing under the floor of experimental rooms. The scientists at the Environmental Evaluation Group (EEG) have acknowledged the projected geomechanical behavior of salt at WIPP may make the retrieval of high-level wastes from WIPP more complex and poetntially more hazardous than originally anticipated.

RECOMMENDATION:

Section 7 of the proposed bill acknowledges some important questions about the high level experiments by requiring the DOE to publish within two years a detailed written report on the need, costs, benefits, risks, safe retrieval and transportation of the experimental high level wastes. We suggest at a maximum that the high level waste experiments be prohibited entirely and deleted from the proposed bill. At a minimum, we suggest that instead of allowing the experiment in light of the major unresolved questions and waiting two years for DOE's report to prove they are necessary and safe, the high level waste experiments be specifically prohibited unless within two years the DOE can prove the experiments are needed and can be carried out safely. In any event, we would urge that there be an independent evaluation of any DOE written report on the high level waste experiments performed by, for example, the federal General Accounting Office.

ADDITIONAL PUBLIC HEARINGS AND SCIENTIFIC PANEL/DEBATE

In closing, since the withdrawal of the land for WIPP is the last major federal action on WIPP, we urge that there be additional hearings in the state, particularly along the transportation route. We also hope that any additional hearings provide opportunities for local elected leaders, organizations, and members of the public to participate. We also would support a hearing in Washington, D.C. because of the national interest in WIPP as the first permanent radioactive waste disposal facility in the country. And lastly, because of the major unresolved geotechnical problems and unresovled geologic questions about the WIPP, we urge that a scientific panel be part of any additional hearings on WIPP which would include both DOE contractors and independent scientists who have researched and published findings on WIPP's geologic suitability for permanent disposal of radioactive wastes.

Again, I thank you for the opportunity to present these views on behalf of the Committee to Make WIPP Safe. I hope that our views will assist you and Congress in seeking to assure that the permanent storage of transuranic nuclear waste can be done consistent with protecting the health and safety of New Mexicans for generations to come.

Senator BINGAMAN. Thank you very much.

Let's go on to the other panel members before we start our questioning.

Dr. Roger Anderson, who is a professional geologist, a UNM geology professor, former consultant to Sandia Laboratory for geology review of WIPP site, and he serves on the national scientific panel reviewing DOE's selection process for the high-level radioactive waste facility.

Dr. Anderson, we appreciate you being here. I understand that you also have a statement from a colleague, Dr. Barrows, that you would like to insert in the record for him, is that correct?

Dr. ANDERSON. I'll be pleased to insert that into the record for Dr. Barrows.

STATEMENT OF DR. ROGER Y. ANDERSON, PROFESSOR OF GEOLOGY, UNIVERSITY OF NEW MEXICO

Dr. ANDERSON. I am pleased to be here today, to be invited, and I was also pleased to see this morning, some of the hardest questions asked related to the 15 percent and the question of storage versus disposal.

Many of us think that this question of the 15 percent and this definition of terms is really a lever, and that it's a lever for getting some waste in the ground and suspect that behind this is really a real possibility that standards cannot be met.

And if that's the case, and we're not sure at a 95 percent level that these standards are going to be met, then there's no business, we have no business of putting waste in advance of meeting the standards or making the tests.

One reason for believing that there are problems in this area was presented this morning or this afternoon by Dr. Chaturvedi, and he reported briefly that a new study shows that there is indeed a brine reservoir beneath the site.

If you look at the history of site selection in the Delaware Basin, Site No. 3 was rejected and not even considered because it was next to brine. Site No. 1 was abandoned largely because of brine. Site No. 2, the present site, when brine was encountered nearby, the whole project was rotated 180 degrees to the south, so that there wouldn't be brine, known brine underneath the repository, and now we have this latest discovery.

Without going into it any more, the significance is, one scenario in Part B, Section 1, requires 10,000 years of protection from an incident that would—a bore hole penetrating through the repository and down below, which would happen to the brine reservoir, and there is ample discharge related to that event to bring enough waste to the surface right there to break the standards.

There's another whole set of reasons that are related to an understanding recently that we're going to have a wet site, it's not going to be a dry salt repository, as originally supposed, but we know that there's going to be water in the site.

In my testimony—there's no time to present this, but there are many reasons given in there, and we can look at some of those.

In fact, I think this is so important that we should have another hearing just on that particular matter and on this whole question of definition of terms.

Let me address this idea, the question of storage versus disposal, now, in experimentation, like the justification is that experiments are needed.

Well, there's only one experiment—well, let's say there are no experiments that could not be taken out, that could not be done above ground at the WIPP site, with the exception of one, and that one experiment is based on having a wet site.

I heard Wendell Weart describe that the most important experiment was the evolution of gas, and what this means is that—well, the drums aren't here, I was going to show everybody the drums, but something happened to the drums.

But inside those drums you could see a lot of organic debris, a lot of organic material. But what happens in a wet site if that bacteria get in there and decompose that material and a lot of gas is evolved.

Well, the only experiment that's really valid in the site is if you take some of the rooms, you put the waste in, you backfill it, and you close it up and you fill it with water and brine and you may even inject bacteria, and then you see what's going to happen and how much gas is evolved.

If you're not willing to do that, you should carry out that experiment above ground and above site. And if you do that experiment, what will happen is that, in effect, that waste is not recoverable.

So the experiments that are proposed, and the most important ones, lead to a non-recoverable waste, and so the definition of terms between disposal and storage disappears in that case.

So, just to summarize, there are scenarios, there are realistic reasons for thinking that the standards might not be met, and unless they're met, I'd say at this point at the 95 percent level, and if scientists are willing to agree to that, okay, they will, it means 5 years down the road the decision to pull that waste out of there or to settle for a site that's not in compliance, and we know which one of those it would be.

[The prepared statements of Dr. Anderson and Dr. Barrows follow:]

Statement to

Congressional Hearing for WIPP Land Withdrawal,
Carlsbad, New Mexico

Concerning

GEOTECHNICAL PROBLEMS AT WIPP:
AFFECT ON COMPLIANCE WITH EPA STANDARDS

(Per Senate Bill S.1272; Sec. 6(b); and Sec. 7 (a)(2))

By

Roger Y. Anderson*

12 October, 1987

*R. Y. Anderson is a Professor of Geology at the University of New Mexico.

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3. Author of 23 reviewed technical journal articles on evaporites and salt dissolution in the Delaware Basin.
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5. Member, WIPP Study Group; an independent panel of professional scientists and engineers in New Mexico.

GEOTECHNICAL PROBLEMS AT WIPP: AFFECT ON COMPLIANCE WITH EPA STANDARDS

SUMMARY

Three geological and geotechnical problems at the WIPP site strongly indicate that performance of the repository will fall below EPA standards. The proposed bill allows waste to be placed in the mine before compliance. The wording of the bill is based upon assurances by DOE managers that performance of the repository will be demonstrated within 5 years. The number and magnitude of remaining problems, however, do not warrant these assurances and delaying compliance with EPA standards is justified only if it is virtually certain (e.g. 95%) that the site will perform as claimed. This statement outlines these unresolved problems with reference to environmental standards as required in Senate Bill S. 1272.

Geotechnical problems are with us today because decisions were made to develop the facility before the site was fully characterized. Early development led to a failure to recognize that the water-carrying aquifer above the site (Rustler Formation) had developed a solution-channel or "karst" hydrologic system. Failure to understand the aquifer also led to low estimates of travel time to the biosphere and to subsequent problems in sealing the shaft from leakage. Also, more water is bleeding into the mine than anticipated.

It is now certain that WIPP will be a water-saturated repository. Mechanisms for moving waste are profoundly affected by having a wet rather than a dry mine. These mechanisms include the creation of a pressurized chamber that contains a liquid slurry of radioactive waste. Such a pressurized reservoir is capable of injecting waste into the Rustler aquifer and possibly of carrying waste to the surface. In addition, we now know that a major pressurized brine reservoir lies beneath the site. The presence of a brine reservoir under the site means that human penetration of the unprotected slurry in the repository will lead to a major release of radioactive waste and this scenario will not comply with environmental standards.

Any one of the problems mentioned above could disqualify the site with respect to EPA standards. Taken together, and for reasons discussed below, the facility will not demonstrate compliance during the period of retrievability for TRU waste. Waste in place will have to be rehandled and transported to another site. Or, more likely, New Mexicans will have a facility that is not in compliance and that could be hazardous.

For these reasons, Senate Bill S.1272 should eliminate the wording in Sec. 7, a 1, line 15, that begins: "Prior to receiving more than 15% by volume...." Instead, the passage should begin as on line 20 and read:

"(T)he Secretary of Energy shall demonstrate that the Waste Isolation Pilot Plant meets the applicable environmental standards prior to storing or disposing of radioactive waste established in Part B of such EPA standards (40 C.F.R. 191, Part B), including the Assurance Requirements under such Part B."

INTRODUCTION

Salt (halite), was proposed in 1955 as a medium for the disposal of nuclear waste because salt is dry, self-sealing, and dissipates heat efficiently. Years later, these same properties are no longer as desireable or as reliable as originally imagined. In the case of the WIPP repository, these properties of salt have become liabilities. For example, it is now known that the repository will not be dry because water is bleeding from the enclosing rocks into the mine. Also, a leaky seal around the shaft has allowed water to flow into the repository at a rapid rate. Engineering plans based upon a dry mine now protect the waste from the brine for only a few years so that the mine will contain a "slurry" or a mixture of brine and waste that will behave as a liquid.

The self-sealing properties of salt, in this situation, may convert the repository to a squeezable "bulb" that contains brine and waste. Squeezing of the bulb is assured by rock pressure at the depth of the mine. The sealed mine, in effect, would be a pressurized "blister" of water and waste with enough pressure to drive waste upward. Hence, two of the properties of salt which were thought to be an advantage may work together at WIPP to create a potentially dangerous situation.

Other geological problems, such as the nature of the Rustler aquifer (the main water-carrying geologic formation above the site) and pressurized brine beneath the site add to the high probability that the performance of the WIPP repository will fall below environmental standards. The discussion that follows is a brief summary of the problems that now delay performance estimates and that will affect compliance.

RUSTLER HYDROLOGY

When the first WIPP site was abandoned in 1975, the project was forced to move to an area where the Rustler Formation had been partly dissolved by underground waters. However, it was not until 1982 that Barrows (1985) recognized that the Rustler aquifer had developed a dissolution or "karst" hydrology. A zone of high transmissivity (fast travel time for water) in the Rustler aquifer has been identified in recent hydrologic studies (SAND 86-7167). This zone is apparently continuous with and part of a network of solution-channels such as the one observed in the walls of the waste-handling shaft (see Plate 1 in Chaturvedi and Channell, 1985, p. 80; see also Exhibit D).

A karst hydrology is difficult to characterize because the statistical chance is low that even one of several dozen boreholes will encounter a solution channel and give information about the maximum rate of flow. Hydrologic tests measure the movement of water at times of minimum flow. However, the network of solution channels most likely developed during times of higher flow and it is these channels that represent the true capacity of the karst network to move water at higher velocities. This means that present hydrologic studies provide only "best case" rather than the worst case estimates of travel times for water in the aquifer.

The Rustler is the most important aquifer in the WIPP area and is accessible to water wells to the south and southeast of the site where water wells are likely to be drilled. This is also the area of high transmissivity that drains from the site which means that wells in this area may not be in compliance with EPA standards. In addition, radiation exposures calculated from existing data, because it is a karst system, will be minimum doses, with the possibility of being too low by at least one order of magnitude.

The karst or solution-channel hydrology means that compliance with EPA standards is, at best, a borderline call within the present state of knowledge. Delay in meeting EPA standards is partly the result of difficulties in characterizing the Rustler aquifer. Clearly, it is not possible to guarantee performance and compliance as has been done by DOE managers. This is especially true because complaince also involves quantifying the plausible mechanisms for injecting waste into the aquifer. The most important of these mechanisms are related to occurrence of water within and beneath the site as discussed below.

WATER-SATURATED REPOSITORY

It was originally believed that the mine would be relatively dry and that only a few litres of brine would be drawn out of the salt adjacent to hot, high-level waste (HLW) cannisters. More recent studies show that far more water than predicted is bleeding into the mine, apparently from impure beds in the walls of the repository. In addition, the first attempt to grout the main waste-handling shaft was not successful and about 1 1/2 gallons per minute of water, after ventialtion, flowed from the Rustler aquifer into the repository. The rate without ventilation is faster, perhaps 2-3 gpm.

Original estimates of flow in the Rustler were described as "teacups per day". Higher flow rates in the aquifer and the failure to obtain a seal between the Rustler and the shaft are probably related to enlarged fractures in the Rustler aquifer. Such fractures, enlarged to solution-channels by dissolution, were observed in the walls of the shaft during construction (see exhibit A). Attempts are being made to re-seal the aquifer but the lack of original success indicates that it would be prudent to assume that some leakage will develop between the plug and the walls in at least one the 4 shafts in the mine.

Difficulties in obtaining an effective seal are apparently related to problems in pouring and setting concrete that is prepared with a solution of saturated brine (unsaturated water will dissolve salt at its contact with the walls of the shaft, leaving a gap). The engineering technology needed to obtain totally effective seals in salt is apparently undemonstrated. Investigations of this problem are just now getting underway. In view of the history of leakage and the uncertain technology, it is reasonable to believe that a connection, however small at first, will allow water to enter the mine and return to the Rustler aquifer.

The difficulties of having a water-saturated repository are largely unevaluated because information about seepage, leaks, and seals has been late in arriving and the realization that there might be a problem has been slow to develop. The consequences, however, are potentially great and require careful examination. A panel of independent scientists and engineers is now considering problems that might develop in a saturated repository containing unprotected TRU waste. Panel members, all New Mexicans, have expertise and professional standing in physics, mathematics, fluid dynamics, and engineering.* One concern of the panel is that the large committment of time, money, careers, and program at WIPP may produce a "shuttle mentality" on the part of managers who may not give proper emphasis to long-term consequences.

To date the panel has identified several oversights related to a saturated repository that may be capabale of driving slurried waste to the surface or into the aquifer. The factors involved include lithostatic pressure, thermal convection and fluid movements, and assumptions about the thermal behavior of salt that may be in error. In addition, the Panel is concerned about current plans that call for no backfill for the first 5 years because the missing backfill will provide space for a larger volume of slurry.

The largest oversight may be a lack of appreciation for the driving energy in a sealed repository. The discovery of a pressurized brine reservoir at WIPP-12 illustrates on a larger scale what might happen if a brine-filled repository is penetrated by a borehole some years after closure. The repository, on a smaller scale, can be considered analogous to a pressurized brine reservoir. In this case, however, the reservoir has been created artificially and has been inadvertantly filled with contaminated brine. The brine may enter from seepage or a larger volume may enter through a faulty seal in one of the shafts.

The depth of the repository assures a pressure of about 2000 psi and the flowage of salt at depth will produce an efficient squeezing action on the slurry in the mine. Natural brine reservoirs are thought to be pressurized by the same process. When the natural reservoir at WIPP-12 was tapped by a borehole about 2.5 million gallons of brine was allowed to flow at the surface before the well was capped. The WIPP repository is not as deep but pressures, perhaps augmented by gas from waste, are probably sufficient to put waste in the aquifer. Further study is needed to determine if waste will reach the surface. Even a small flow of contaminated brine into the aquifer is probably sufficient to exceed EPA exposure standards. If the seal fails in any one of the four shafts, the same driving force will move waste upward to the aquifer without the requirement of human penetration with a borehole.

The original FEIS (1980) does not consider the wet-site scenarios mentioned above. If past history is a guide, several years of research and testing will be needed to evaluate the sealing of shafts and the performance of a wet repository. Releasing the site from EPA standards at this time will remove the pressure to do the necessary research and will encourage a mind-set that postpones dealing with serious problems, as illustrated by the plans for handling backfill.

*Details available upon request.

Present plans call for storing waste in the repository without backfill. However, compliance with S.1272 (Sec. 7 b) requires backfill. This means that all waste that is put into the mine now will have to be removed and rehandled at least once. A later decision not to rehandle the waste and to forego backfill is certainly a possibility and the decision could be dictated by underestimating the rate of closure of the rooms in the mine. Such a decision or circumstance will mean a larger volume of slurry, absence of the protection afforded by backfill, and more serious consequences from a release. Hence, a failure to hold to standards now and a decision to store 15% of the waste is very likely to make compliance with standards more difficult 5 years from now.

PRESSURIZED BRINE RESERVOIR

Recent and as yet unreported investigations show that a brine reservoir lies beneath the mine workings at the WIPP site. The resevoir may be an extension of the nearby reservoir found in WIPP-12 , one mile to the north. That reservoir has a capacity of 17 million barrels. Space requirements for a reservoir that large suggest a wide undergound distribution. A reservoir of this volume has several times the capacity needed to fill the repository and carry a large volume of water to the surface. The volume of the reservoir and new evidence that brine lies beneath the mine makes it virtually certain that human penetration with an uncased borehole will flush brine through part of the repository and carry substantial quantities of waste directly to the surface.

History and Importance of Brine Reservoirs

The presence of a pressurized brine reservoir under the repository makes it far more difficult to comply with EPA standards. The importance of brine is reflected in the history of exploration and site selection in the Delaware Basin. Avoidance of a brine reservoir was a major criterion used during the selection of the first WIPP site in the Delaware Basin. For example, in rejecting Site 3 the FEIS, 1980, p. 2-12 says:

"Most important it [the rejected Site 3] is near 3 deep holes that have been drilled while exploring for oil and gas. They were described as having brine flows that in turn were described as "strong," 20,000 barrels per day, and 36,000 barrels per day."

The first WIPP site was abandoned in 1975 after complex geology and a brine reservoir with a flow of 660 barrels per day was discovered. The WIPP-12 reservoir was discovered in 1981 after a group of independent geologists made a special appeal to the governor* and the State EEG

*Request made to Governor Bruce King, Attorney General Jeff Bingamen, and Secretary George S. Goldstein. Hearing held before New Mexico Radioactive Waste Task Force, Energy and Minerals Department, 27 April, 1981. Statements presented by: R. Y. Anderson, J. C. Callender, L. Gelhar, G. Griswold, and J. W. Hawley (see appended Exhibits B, C).

encouraged the Attorney General to seek an agreement for additional exploration. After brine was discovered to the north, the layout for the mine was rotated 180 degrees to the south to help assure that no brine would be present beneath the mine workings. A decision was made at that time not to deepen the ERDA-9 well and test for brine at the center of the site. However, the EEG asked DOE to carry out investigations with newly developed methods that can identify the presence of fluids at depth. These studies confirm the presence of brine beneath the repository.

Significance of a Brine Reservoir

Repeated attempts to avoid brine reservoirs during site selection and development demonstrate the conviction by scientists that a pressurized reservoir beneath the repository is a hazardous condition. The original decision to restrict the mission of WIPP to military waste and not to dispose of HLW was based partly on discoveries of brine. The plan to abandon the pure salt in the lower HLW storage level immediately above the Castile was largely dictated by a concern over the proximity of the better horizon to the underlying pressurized brine.

The remote possibility of a "breakthrough" of brine from the reservoir into the repository is worth considering. A breakthrough is most likely and would be most serious within the first 100 years after closure and before void space in the repository above was closed by lithostatic pressure. The likely pathway for release is through a "leaky" ERDA-9 borehole after it is partially plugged with cement (ERDA-9 may be plugged above and not below because of constrictions from zones of flowing salt or from accumulations of brine in the well).

The ERDA-9 hole passes within about 50 meters of the rooms in the mine. The bottom of the borehole penetrates about 15 meters into the top of the Castile anhydrite. The brine reservoir at WIPP-12 lies only 53 meters beneath the top of the anhydrite. Conceivably, the brine reservoir under the WIPP site is as little as 30 m (100 feet) beneath the base of the borehole at ERDA 9. Hence, there is a short lateral pathway, perhaps about 100 meters of layered and fractured anhydrite and mudstone, between the brine reservoir and the repository. Movement of brine through several hundred meters of layered sediments has been demonstrated during solution mining (Dowhan, 1976). An observed pressure of about 2000 psi in the brine reservoir may be adequate to initiate the slow migration and then the flow of brine into the repository. Instabilities generated by the thermal gradient from TRU waste adds further uncertainties (Estrada-Gasca and Cobble, 1986). The final consequences would be similar to that described earlier for a pressurized repository.

The most likely scenario for failure is not a breakthrough but human penetration of the mine and the brine reservoir by a borehole. This scenario would probably require repackaging all the waste into resistant cannisters in order to comply with environmental standards.

CONCLUSIONS AND RECOMMENDATIONS

Several plausible examples show that our understanding of the performance of the WIPP repository is far from certain. Dissolution in the Rustler aquifer, a wet and pressurized mine, leaky seals in the shafts, and pressurized brine beneath the repository are all problems that could break environmental standards and problems that require careful study. To claim at this point in time that the facility will meet environmental standards within some fixed period in the future is irresponsible. A Senate bill that allows waste to be put in place before these questions are resolved will require the rehandling of waste and will create a legacy of difficult problems that will persue its sponsors.

WIPP is the first demonstration project for the permanent disposal of nuclear waste. The urgency to show that it can be done is understandable. However, success will be determined by the care and caution that is taken by scientists, engineers, managers, and legislators today. Lack of success will be measured by the mistrust that the project engenders tomorrow. The waste we have created will be with us for millenia and a hurried solution now is not worth the gamble. One can imagine no worse outcome for the nuclear industry than a major oversight at WIPP. For these reasons, **no waste should be placed in the repository until full complaince with environmental standards is demonstrated.**

Finally, the presence of a brine reservoir beneath the mine effectively eliminates the site as a candidate for the disposal of HLW. Experiments with HLW in salt will be of no value at the Nevada or Washington nuclear waste disposal sites. A markedly different stratigraphy in the Palo Duro Basin in Texas means that experiments in WIPP will be of limited value. HLW at WIPP is moot and the proposed **HLW experiments are a waste of time and money.**

REFERENCES CITED

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Chaturvedi, L. and Channell, J. K., The Rustler Formation as a transport medium for contaminated ground water, EEG-32, Plate 1, p. 80.

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Estrada-Gasca. C. A., and Cobble, M. H., 1986, The WIPP problem: First World Congress on Computational Mechanics, Austin Texas, 9 p.

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APPENDICES

Exhibit A. Xerox of Plate 1, p. 80 in Chaturvedi and Channell, 1985.

Exhibits B, C. Letter to Governor Bruce King, 24 Feb., 1981. Agenda for Radioactive Waste Task Force Meeting, 27 April, 1981.

[redacted]

EXHIBIT
A

Plate I. An open fracture in the unnamed lower member of the Rustler Formation.

EXHIBIT B

THE UNIVERSITY OF NEW MEXICO
ALBUQUERQUE, NEW MEXICO 87131

The Honorable Bruce King, Governor
Santa Fe, New Mexico

24 February, 1981

Dear Governor King,

I wish to call your attention to an important matter concerning final approval of the WIPP.

At least five geologists, including myself, that are knowledgeable about the details of the project, have expressed serious reservations about the safety and adequacy of the site or the program to investigate the site. These include consultants, contractors, managers, and reviewers for the project. Collectively, these people represent a great deal of expertise specifically related to WIPP.

It is quite possible that you or your office may not be fully aware of the significance of the findings of these geologists. Some of us believe that the brine problem at the site has potentially grave consequences that can be evaluated or avoided.

These individuals feel that they have a responsibility to assist you and the State in obtaining a balanced evaluation of the project. Professional protocol determines that their input be based on the need of the State for this information.

If you or your office wish to examine the geological objections to the present plan for the development of the WIPP, I will be happy to put you in contact with experts who are qualified to present this information.

Sincerely,
Roger Y. Anderson

Roger Y. Anderson
Professor of Geology
(505) 277-2308, 256-3487

Copy to: Larry Kehoe

DEPARTMENT OF GEOLOGY TELEPHONE 505 277-4204

EXHIBIT C

AGENDA

RADIOACTIVE WASTE CONSULTATION
TASK FORCE MEETING

April 27, 1981
10:30 A.M.

1. Presentation on Geology of WIPP Site

   Introductory Statement -
   R.Y. Anderson — 2 min.

   Presentation of Information -

   Dissolution
   R.Y. Anderson — 13 min.

   Brine Reservoirs
   G.B. Griswold — 10 min.

   Unresolved Problems
   L. W. Gelhar — 10 min.

   Evaluation of Program -
   J. W. Hawley — 5 min.
   J. F. Callender — 5 min.

2. Other Business

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WIPP Geohydrology - The Implications of Karst

Larry Barrows

5-20-82

Introduction

Karst refers to a particular type of surface morphology and goundwater hydrology that results from the dissolution or corrosion of rock. The most spectacular and best studied karstlands are in carbonate rocks, but karst also forms in gypsum, anhydrite, and salt.

The WIPP is in one of the largest karstlands of the United States. Karst morphology has been extensively studied by G. O. Bachman and others. The implications of karst hydrology have not yet been considered.

The problem with karst is that shallow groundwater flow is highly irregular in both time and space, through open conduits with a minimum of filtration, and (under the right weather conditions) extremely fast. The Rustler Formation is both the principal aquifer in the region and the principal karst horizon. The Rustler Formation is not a reliable barrier to the migration of contaminated water.

This report results from a review of literature on karst hydrology, inspection of karst features in the field, and discussions with an experienced consultant. The conclusions are based on the referenced literature and should not be judged without a thorough understanding of that material. For minimum background information, the reader is referred to Bachman (1980) and Bogli (1980).

Evidence of Karst

A literature review places the WIPP site within one of the largest karstlands of the United States. Davies and LeGrand (1972) and LeGrand, Stringfield and LaMoreaux (1976) both summarize the important karstlands of the U.S. and include the Pecos Valley of southern New Mexico in their discussions. The maps in these articles (p 470 and p 36, respectively) indicate the WIPP site lies within an extensive karstland. A similar map is reproduced in Milanovic (1981, p 15) and in slightly more detail in Davies (1970, p 77).

Relevant articles on a more local scale include (Morgan (1941), Olive (1967), Gustavson, Hoadley and Simpkins (1981), Vine (1963), and Bachman (1974, 1980, 1981).

Morgan (1941) noted that in the Pecos River drainage basin solution of halite, gypsum, and limestone has controlled the position and efficacy of surface streams and accomplished much of the actual basin excavation. He also notes that over large areas the surface drainage systems have been completely disrupted by development of subterranean drainage through solution channels. The WIPP site is indicated by his map (Fig. 1, p 28) as lying in one of these areas.

More recently Gustavson, Hoadley, and Simpkins (1981) identified rapid karstification of land surfaces overlying areas of active salt dissolution. Their studies are largely conducted in the Texas Panhandle, but simple extrapolations of their regional maps place the WIPP in a karstland.

Olive (1967) discussed solution-subsidence troughs in the outcrop area of the Castile Formation. He attributed the troughs to collapse of solution conduits initially developed along east-trending joints. Although this karstified formation differs from that at the WIPP, the article demonstrates karst development in gypsum in the same semi-arid climate.

G. O. Bachman has conducted extensive investigations of the surface geology of the Los Medanos area to support geologic feasibility studies of the WIPP. The results of this field work and his present interpretation of the Cenozoic history are in Bachman (1980). This report describes dissolution and karst development in the Permian evaporites of the Pecos drainage in the Delaware Basin (including the WIPP site). The affected evaporites include anhydrite, gypsum, halite, and related minerals, and the karst features include collapse sinks, breccia pipes, domes, mounds, caves, and intricate solution passages. Here, and in Bachman (1974), it is suggested that the rate of karstification is dependent on climate with more rapid dissolution and collapse during humid intervals and active fields of windblown sand during arid intervals. The result is an extensive, partially-buried karst plain.

Nash Draw is the most impressive topographic feature in the vicinity of the WIPP site. It is described by Vine (1963) and mapped in detail by Bachman (1981). Processes identified in its formation include near surface dissolution and the related in-filling of solution cavities by surficial sediments. Presently active dissolution of gypsum from the Rustler Formation has resulted in numerous collaps sinks, caves, and tunnels, in a complex karst topography. Caves near the Ken Smith Ranch, near WIPP 26, and near the turn-off from NM

Route 128 to ERDA 10, are large enough to enter (J. Mercer, pers. comm.). Deep-seated dissolution and subsequent collapse of the overlying evaporite section has not been identified.

Karst springs are usually large, few in number, and very irregular in flow. Surprise Spring at the north end of Laguna Grande de la Sal and the brine springs at Malaga Bend are probably karst, although Surprise Spring is affected by waste water from potash refining. The brine springs at Malaga Bend have been studied as part of a salinity alleviation project. The flow is estimated at 0.5 cubic ft/sec, but (more pertinent to karst) it is irregular. Hale, Hughes, and Cox (1954, p 26) noted that short period (hours - few days) water level changes in wells in the spring aquifer accompanied local rain storms. Similar conclusions are indicated from the monthly precipitation table (p 26) and hydrographs in Havens and Wilkins (1979). Particularly notable are the very abrupt changes in all their wells accompanying 6-1/2 in. of rain during August 1966. The significance of such rainfall-related short-period well level oscillations near a karst spring is discussed in Milanovic (1976).

The evidence for regional karstification is extensive, and there is no reason to preclude karst conditions from the immediate vicinity of the WIPP site. The following observations indicate that karst conditions do exist at the site:

- the Rustler Formation isopach
- solution-controlled anisotropic heterogeneous vugular porosity
- closed topographic depressions
- the WIPP 33 cavities
- the gravity field
- lack of surface runoff
- the water balance

An isopach of the Rustler Formation is given in Powers and others (1978, Figure 4.3-8) and more recently in the USGS contribution to Barrows and others (in preparation). These maps show the isopach thinning from 450 feet in the southeast corner of WIPP site Zone IV to 275-300 feet in the northwest corner. There is a strong correlation between the isopach thinning and downward progression of surfaces defined by borehole encounters of the uppermost halite, the uppermost anhydrite, and the lowermost gypsum. These relations have been attributed to the downward and eastward progression of dissolution in the formation by Powers and others (1978, p. 4-41) and by Snyder in Barrows and others (in preparation). The Rustler Formation thinning is an example of a complex interstratal blanket karst involving halite, anhydrite-gypsum, and, to a lesser extent, dolomite.

The interpretation that dissolution progresses downward and eastward is inconsistent with confined southwesterly flow in the Rustler Formation. If the flow were confined, then dissolution should proceed from the recharge area where fresh water first enters the formation. This is demonstrated by a laboratory model of halite karst development described by Bogli (1980, p 210). A more likely process involves easterly progressing karst development with downward infiltration of fresh water through feeders in the overlying Dewey Lake Formation to karst channels in the Rustler Formation.

The borehole measured hydraulic characteristics reported by Gonzalez (1982) are consistent with an interstratal phreatic karst. The measured transmissivities vary over five orders of magnitude within the site (0.001-100 ft^2/day) and up to 1250 ft^2/day in Nash Draw. Transmissivity and the isopach thinning of the Rustler Formation generally increase from east to west. Where measured,

the transmissivities are anisotropic with reported ratios of 2.1:1 and 2.7:1. The potentiometric gradient is well below the ground surface, of low average gradient, and irregular. The core descriptions of the aquifers (Schreiber, 1982) indicate primarily vugular porosity.

There are a large number of closed topographic depressions at the WIPP site. These are best seen with stereoscopic viewing of the site aerial photographics or by inspection of the site topographic maps (2 ft. contour interval) (Bechtel, 1981). The largest of the depressions are: in sec. 9, R31E, T22S; at WIPP 14; and at WIPP 33. The one in section 9 is briefly discussed in Powers and others (p 4-7, Fig. 4.2-1b) and by Griswold (1977, p 13, Fig. 34). The depression at WIPP 33 is discussed in the WIPP 33 Basic Data Report (SNLA and USGS, 1981).

The smaller depressions may be windblown. However, the larger depressions are not reasonably attributed to the wind. They are generally round instead of elongate in the prevailing wind direction, symmetric instead of having windward and leeward sides, and have hummocky sandy bottoms instead of a pebble-strewn wind scour. They are also partially coincident with the negative gravity anomalies and one (WIPP 33) was found to be underlain by cavities.

The larger of the depressions are reasonably interpreted as alluvial dolines. Following M. Sweeting (1973, p 46) or A. Bogli (1980, p 61) alluvial dolines form when loose surficial material is washed into solution cavities in the underlying rocks.

Borehole WIPP 33 (SNLA and USGS, 1981) encountered four cavities totaling slightly over 20 feet in the Forty-niner and Magenta Dolomite Members of the Rustler Formation. These cavities are direct evidence of karst. They demonstrate the relation between alluvial dolines, negative gravity anomalies and karst channels in the Rustler Formation.

The surface of the doline at WIPP 33 is floored with loose sand. There are matted leaves and debris indicative of shallow flooding but no evaporite crust. One of the few small arroyos at the site drains into the depression.

A negative gravity anomaly at WIPP 33 was indicated by the regional gravity survey. Additional reconnaissance high-precision gravity profiles resolved a 0.6 milligal negative anomaly with a double half width of 900 ft. This anomaly cannot be reasonably attributed to the 44 ft of Holocene fill encountered in WIPP 33. The top of the causative body should be at or above 450 ft, and the anomaly is too large to be due directly to the cavities .

The WIPP gravity survey is a classic demonstration of the utility of microgravity in karstlands. The field parameters were initially selected to resolve low-amplitude, broad-wavelength anomalies originating from structures within the Castile Formation. Instead of the anticipated signals, the survey revealed a complex pattern of high-amplitude, and short-wavelength negative anomalies. These are presently interpreted as resulting from density (and acoustic velocity) alternations in the vicinity of karst channels. The interpretation and preliminary data are in Barrows and others (in preparation, section 3.3). It consists of the following elements:

Borehole WIPP 34 is in a normal gravity field. WIPP 13, WIPP 14, and WIPP 33 are in negative gravity anomalies. The depths to shallow stratigraphic horizons in all the boreholes are normal.

One of the negative gravity anomalies is coincident with a time-structure syncline at the reflection time of the Rustler Formation (seismic line 77X2). Assuming stratigraphic depths are normal, the seismic time-structure syncline can be produced by lateral velocity variations in the overlying Dewey Lake Formation. The magnitude of the required velocity variation is comparable to that indicated by measurements in uphole velocity surveys at WIPP 13 and WIPP 34. The density variation implied by this measured velocity variation is, along with the thickness of the Dewey Lake Formation, sufficient to account for the negative gravity anomaly.

Boreholes WIPP 14 and WIPP 33 are in alluvial dolines. The two dolines are coincident with negative gravity anomalies.

Gravity interpretations are inherently ambiguous. However, the anomalies are large, real, and must originate at shallow depths. The boreholes did not encounter stratigraphic features which could cause such anomalies, and alteration in the vicinity of karst channels is the simplest interpretation yet proposed. Microgravity surveys in other karst areas (Arzi, 1977 and Omnes, 1977) have also detected negative anomalies which are too large to be entirely due to the cavities. These are interpreted as partially resulting from rock alteration near the channels.

The morphology of semi-arid environments is normally the product of intermittently running water. Arroyos, piedmonts, and playas are characteristic features. The WIPP site has almost no surface runoff and is characterized by a gently-sloping, slightly hummocky plain blanketed with partly stabilized windblown sand and sand dunes. This morphology is evident on the detailed WIPP topographic maps (Bechtel, 1981). The maps show numerous small closed topographic depressions scattered over the site area.

The lack of erosional morphology is not due to inadequate precipitation. There are about 12 inches of annual rainfall most of which falls between May and October. Ed. L. Reed and Associates (1977) provided a study of the surface hydrology in the Los Medanos Area. They indicated an intensity distribution of 1.6 inches and 4 inches for the 2 year and 100 year (resp.) recurring 6 hour storms; and 2 inches and 5 inches for the 2 year and 100 year (resp.) recurring 24 hour storms. They also calculated anticipated runoff using criteria established by the U.S. Soil Conservation Service. The 100 year, 24 hour storm should cause 990 acre feet of runoff from the 30 sq. mile WIPP site. Instead of running off, the precipitation collects in the small topographic depressions and rapidly soaks into the ground.

The absence of surface runoff is characteristic of a karstland. "Mature karst" has been defined as the stage when subsurface drainage is sufficiently developed to accommodate nearly all surface runoff (Bogli 1980, p. 47).

Further karst indications can be inferred from the steady-state water balance equation

Inflow = Outflow

Despite its simplicity, this expression is fundamental to hydrology and must be satisfied by any model or any part of a model (Ward, 1967, p. 19).

Consider the soil at the WIPP site. The inflow is simply 1 foot of precipitation per year (Powers and others, 1978, p. 6-4). Outflow is split between percolation to the groundwater system and evapotranspiration.

Insufficient information exists to establish the division between evapotranspiration and downward percolation. Efficient evapotranspiration should be favored by the semi-arid climate, deep water table and generally dry precursory conditions. Percolation to the ground water system should be favored by sparse vegetation, intense rainstorms, and transmissive soils. The soils are at least transmissive enough to allow infiltration of the larger storms.

Geohydrology Associates, Inc. (1978, p. 48) discussed various studies pertinent to establishing the percentage of total precipitation that is evapotranspirated. They needed the value to calculate the water budget at the potash mines and concluded that 96% evapotranspiration is reasonable. Their report describes many surficial karst features in the area. However, they did not assume karst hydrology in modeling the groundwater movement.

Assuming 96% evapotranspiration, then 0.04 foot of water per year is added to the groundwater system. Further assuming the Rustler aquifers are fifty feet thick with an average effective porosity of 10% (Powers and others, 1978, p. 6-22), then enough water is added to completely refill the aquifer every 125 years.

It follows that the groundwater must be removed from the system on an average of 125 years (some faster, some slower). Calculations based on borehole-measured parameters and a particle-tracking model for a nonabsorbing tracer yield extremely long travel times around 40,000 years (Gonzalez, 1982). There is a basic inconsistency between these two approaches. Appealing to an evapotranspiration efficiency approaching 100% is both unsubstantiated and unnecessary. It is subsequently shown that in a karstland boreholes are expected to indicate values which are not representative of the area. The calculated very long travel times are then both understandable and wrong.

Implications

The WIPP site is reasonably described as a karstland. Regional karst is evident in the surface morphology and has been so identified by Morgan (1941), Olive (1957), Davies and LeGrand (1972), LeGrand, Stringfield and LaMoreaux (1976), G.O. Bachman (1974, 1980, 1981), Powers and others (1978, section 6.3.6) and Gustavson, Hoadley and Simpkins (1981, p 130-137). Locally the Rustler Formation is an example of a complex, interstratal, blanket karst involving halite, gypsum-anhydrite, and dolomite. Karstification of the Rustler Formation is evident from the Rustler isopach, solution-controlled anisotropic heterogeneous vugular permeability, the gravity field, the WIPP 33 cavities, closed topographic depressions, lack of surface run-off, and considerations of a reasonable water balance.

Implications to WIPP follow from the characteristics of karst hydrology. The English literature on karst hydrology is limited but adequate to form some general conclusions. This literature includes two text books (Bogli, 1980 and Milanovic, 1981), a couple of published symposia (Yevjevich, 1976, and Tolson

and Doyle, 1977) and several articles. It should be noted that karst hydrology is a newly developed area of research and not much was published in English before the last half decade.

The hydraulic characteristics of a karstland result primarily from the dissolution or corrosion of rock. Secondary processes include the transport of insoluble material through solution conduits and the incasion or collapse of underground cavities. The processes are discussed at length in Chapter 14 of Bogli (1980).

Karstlands develop in phases. During the initial phase a hydraulic gradient forms in a corrodible but unaltered country rock. Water flows slowly through interstices and open joints and corrodes or dissolves the rock. One or two of the pathways will be slightly more permeable, carry slightly more water, and grow faster than the other pathways. As they grow, the hydraulic gradient decreases and alternate pathways become increasingly inactive. The end result is a highly irregular regional network of primary solution conduits within a larger volume containing generally inactive stagnated secondary pathways. Average transmissivities should be highly anisotropic in the direction of the original gradient (Mandel, 1966, p 5).

The initial stage of karstification lasts until the subsurface drainage is sufficiently developed to accommodate all of the surface run-off. The karstland is then defined as "mature" (Bogli, 1980, p 47). During maturity, corrosion enlarges the conduits, the water table drops towards the level of the drainage springs, and the number of springs decreases as the more aggressive conduits capture increasingly larger proportions of the total flow. Finally

in old age the cavities collapse. In this sense, karst development at the WIPP should be regarded as mature.

The preceding discussion is independent of the size of the volume considered. In a karstland, flow through any representative volume is expected to be dominated by a few throughgoing conduits and there should be no spatial scale at which the average hydraulic properties vary gradationally. Because of this inherent heterogeneity, continuum models should not apply. This includes the use of an anisotropic continuum for a "fracture flow" model. For further discussion of the physical conditions necessary to use the anisotropic continuum approximation see Maini, Noorishad, and Sharp (1972, paper II-E. 8 p.).

Another implication of the karstification process is that borehole-measured transmissivities and storativities should not be representative of the area. A borehole which misses one of the active corrosion conduits should show values which are much less than the average. This applies to almost all boreholes in a karst terrain because the area of active conduits is only a small part of the total area. Conventional borehole measurement can still be made in a karstland. Mandel (1966, p 6) notes that even in well developed karstlands there can be a regular distribution of groundwater potentials and a "cone of depression" around pumping wells. In this sense, karst may be indistinguishable from classical porous aquifers.

A karstland can normally, but not always, be subdivided into three hydrological zones based on the position of the water table (Bogli, 1980, Ch 6). The largely inactive vadose zone includes feeders in which groundwater flows downward towards collecting channels. The high-water zone is that region which is alternately flooded and empty, and the phreatic zone remains completely flood-

ed. All three zones should be present where corrodible rocks extend from depth to the surface (e.g., Nash Draw). At the WIPP site the corrodible Rustler Formation is beneath the Dewey Lake Formation and entirely saturated with water (interstratal phreatic karst). When penetrated by wells, water rises several hundred feet into the relatively impermeable Dewey Lake Formation (i.e., an artesian aquifer). Other karstlands in which saturated corrodible rocks are covered by non-soluble formations include the Athabasca carbonate and evaporite karst in Alberta, Canada (Ozoray, 1977, p 85-98), the partially covered Silver Springs basin in Florida (Faulker, 1976, p 137-164), and the Santa Rosa area of New Mexico (M. Sweeting, 1973, p 299). Artesian conditions in karstlands have been noted along the northern cost of Puerto Rico (Giusti, 1977, p 149-167), in Yugoslavia (Milanovic 1976, p 165-191 and 1977, p 357-358), in portions of the Silver Springs basin (Davies and LeGrand, 1972, p 477), and the Roswell Artesian Basin of New Mexico (Davies and LeGrand, 1972, p 502; Bean, 1942).

The velocity of groundwater in a karstland is very irregular. Milanovic (1981 ch 5) reviews the background and present concepts of karst water and its zonation by velocity. At one extreme are old and nearly stagnant waters occupying pores in the remaining unaltered country rock and in abandoned pathways which are no longer part of the primary system. Bogli (1980, p 82) notes several occurrences of stagnated karst waters, one of which was dated at 3400 ±400 yrs. At the other extreme are the waters in the primary system. A few direct velocity observations have been made by spielogists observing the flow of water along cavern floors. Most velocity measurments are made indirectly by injecting a tracer into the karst watercourse, usually at a swallow hole, and observing the arrival at a spring. This "velocity" is the linear distance divided by travel time and does not account for irregularities in the flow path.

The measured tracer velocities are, by groundwater standards, very fast. Milanovic (1981, p 135) gives a histogram and discussion of 281 tests conducted in the Dinaric Karst of Yugoslavia. The measured velocities ranged from 0.002 to 55.2 cm/sec with an average of 5 cm/sec. The linear travel distances are 10 to 15 or more kilometers. Bogli (1980, p 78-79) reports flow velocities ranging between a few meters per hour and 1/2 km/hour (0.08 to 14 cm/sec). Comparable velocities were discussed by the participants in the 1975 U.S.-Yugoslavian symposium on karst hydrology and water resources (Yevjevich, 1976, pp 170, 176, 186-187, 240). At a reasonable karst velocity of 1 cm/sec water in the primary system can move 30 km in about one month.

The observed character of karst flow also differs significantly from more conventional groundwater. First, velocity is not proportional to the potentiometric gradient. Milanovic (1981, p 138) gives a plot of the measured tracer velocities versus the gradient between the end points. There is no detectable relation on the plot despite the wide range of both variables. Bogli (1980, Ch 5) notes that there is no direct relationship between the velocity of flow and the gradient. It follows that models based on a linear or Darcy relation should not be applied to a karstland.

Second, karst velocities are found to be dependent on surface conditions with relatively slow movement during the dry season and rapid movement during heavy rains. In fully arid climates, permanently static karst water-bodies can be found (Bogli, 1980, p 85). This dependency of velocity on surface conditions results from variable flow regimes more than an increase in the gradient. Torbarov (1976, p 121) demonstrated at least two, and probably three, flow regimes using the decomposition of water recession curves. The calculated

hydraulic characteristics (i.e., transmissivity and effective porosity) of the regimes differ. Further considerations of multiple flow regimes in a karst are given by Milanovic (1976, p 184), Yevjevich (1976, p 213), Ramljak, et al (1976, p 240) and Bogli (1980, Ch 5).

Karst results from the dissolution or corrosion of rock in a complex groundwater system which is extremely irregular in both space and time. The chemical properties of karst waters are correspondingly complex. Faulkner (1976, p 149) and LeGrand, Stringfield and LaMoreaux (1976 p 44) note chemical stratification of karst water with generally more dissolved solutes at greater depths. Chemical analysis of nine samples from the Puerto Rico karst are given by Guisti (1977, p 149-167) and for six samples for the Athabasca buried karst by Ozoray (1977, p 85-98). These last two papers illustrates the broad range of chemical compositions of karst waters. Further discussion of geochemical studies are in Thrailkill (1976, paper 34) and Petrik (1976, paper 29).

Faulkner (1976, p 137-164) reported the analysis of a karst system discharging at Silver Springs, Florida. This article may reasonably represent the extent to which hydraulic analysis can be applied to a complex and largely inaccessible karstland like the WIPP site. The analysis used flow net techniques to model the known flow rate from the spring. Sufficient well data were available to contour the potentiometric surface. Recharge was by infiltration of local rainfall. Aquifer thickness, effective porosity, and isotropic transmissivities were assumed. The flow net analysis indicated transmissivities of 10^3 to 2.36×10^6 meters squared per day and velocities between 0.05 to 23 meters per day, with an average of 2 to 3 meters per day. The author notes that the calculated velocity approximations must be used with care because of

complications due to the presence of solution channels (p 158). He also notes that while flow net analysis of the freely flowing karst spring yielded results representative of the basin, conventional pumping tests may necesarily analyze a small part of the aquifer that is not representative of the larger segment (p 159).

Practical problems of waste disposal in a karstland result from the irregular, very fast movement of contaminated groundwater through open conduits. Authors who have identified karstlands as unreliable waste disposal environments include LeGrand (1973), LeGrand, Stringfield and LaMoreaux (1976, p 32), Yevjevich (1976, p 220), Turk (1976, paper #30 and p 861), Pokrajcic (1976, paper #31), Preka (1976, paper #32), Faulkner (1976, p 859), Petrik (1976, p 860), Corovic (1976, p 860, p 862), Vineyard (1976, p 861), Herak and Stringfield (1972, p 515), Milanovic (1981, p 3), Richter (1977, p 305), Sandlein and Palmquist (1977, p 323), and Davies and LeGrand (1972 p 480), Malatino and Lloyd (1977, p 307).

Conclusions

- The WIPP site is regionally and locally a karstland.
- Representative hydraulic characteristics cannot be measured at boreholes.
- Continuum models should not be used to establish minimum flow times. This includes the use of an anisotropic continuum approximation of fracture flow.
- Flow in the Rustler Formation is expected to be highly irregular in both space and time, through open channels with a minimum of filtration, and (under the right weather conditions) extremely fast.
- The Rustler Formation is not a reliable barrier to the migration of contaminated water.

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Senator BINGAMAN. Thank you very much.

You also have a written statement that you are submitting for the record, is that right?

Dr. ANDERSON. Yes, sir.

Senator BINGAMAN. OK. Our next witness is Roxanne Kartcher, who is with the Carlsbad Citizens Concerned About Nuclear Waste.

She has been a resident of Carlsbad and actively concerned about WIPP during the last 8 years.

STATEMENT OF ROXANNE KARTCHER, CARLSBAD CITIZENS CONCERNED ABOUT NUCLEAR WASTE

Ms. KARTCHER. First of all, I would thank you for this opportunity to speak.

I think there are a lot of citizens of Carlsbad that would have liked to have been here, but due to work and other such things, they could not attend.

In light of this, we have been asked to represent over 300 people from the City of Carlsbad, and I will get into that in just one moment.

Contrary to what's been expressed today at this hearing, all is not well at WIPP or Carlsbad. Politically speaking, this project has been shoved down the throats of this town and this state.

We have been told by politicians that we want high-level waste here and that we are not concerned about EPA standards.

These same politicians have actively worked for years to stop us from voting on this issue. That's an insult to the intelligence of this community and it's an insult to the people in this town.

Of all the people in the State of New Mexico, the citizens that live here are the ones that had the least say-so as to what happens in their lives, and as a citizen, I have become extremely upset at the political maneuvering to get WIPP at what I perceive to be any cost.

I don't think the public of Carlsbad is buying it any longer.

In lieu of this, we started an organization that said we want to be represented, not dictated to, and we want to have the right to vote on the issues that so deeply affect the lives of every man, woman and child in this community.

We have, within a matter of four or five days, collected over 320 signatures on a letter that is to be submitted to this committee.

The concerns on this letter are compliance with Environmental Protection Agency standards by the Department of Energy before any radioactive waste is placed at WIPP.

I for one will back that statement as far as my support for WIPP goes. That's part of my support, is that we have standards emplaced at this project.

If you are truly looking at my safety, you will not overlook any regulation that involves the health of my children and this town.

Number two, elimination of high-level radioactive waste experiment at WIPP. We have been repeatedly told in this state and in this community that high-level waste would not be a part of Carlsbad.

The same people that have told us this in the past and have told us to go to sleep and not to worry about it, these same politicians

are coming out now and saying, we want all of the high-level waste in Carlsbad.

Again, once more, we have not been asked. They cannot represent the citizens of Carlsbad in light of not asking us or allowing us to vote on this.

Number three, the concern of strengthening of transportation safety criteria. That we consider to be a very important process for the people of Carlsbad, their health and safety.

I think I can adequately say that I am expressing concerns of many people in this community, people that are minors and people that are housewives and people that are nurses and people that have not been asked for their opinion.

And I suggest, Gentlemen, that it's time now that you started listening to these people, because these people previously have told you some of these things and been scoffed at.

Years ago we said that high-level waste was going to be a reality at WIPP. We were laughed at by people who are now actively trying to get it into this community.

Thank you very much.

Senator BINGAMAN. Thank you very much. We appreciate your testimony. [Applause.]

Our next witness is Bill Baggs, who is with the American College of Emergency Physicians, who is a Carlsbad physician involved in WIPP health and safety issues during the last several years.

We appreciate you being here.

STATEMENT OF DR. WILLIAM BAGGS, AMERICAN COLLEGE OF EMERGENCY PHYSICIANS

Dr. BAGGS. Thank you very much.

I would like to, first of all, thank you for allowing me to speak. I find that to be a great honor, and I think it's very nice that this meeting has come down to Carlsbad so that the local citizens, such as Roxanne, can get an opportunity to speak directly to you.

By way of introduction, I would like to give you some of my educational background. In the military, my duty was an instructor in the chemical, biological and nuclear warfare school.

I have taught classes on nuclear decontamination.

Part of the courses I've taken throughout my training, undergraduate, post-graduate and post-doctoral training have been in radiobiology and radiophysics, radiation physics, in Durham, North Carolina.

Also I have attended a course at Los Alamos in nuclear waste management.

However, probably the best qualification I have to speak on this committee is the fact that I am a local resident.

I would like to start my testimony with a little, brief story about how I came to Carlsbad.

When I was finishing up my training in orthopedic surgery—I'm not an emergency room physician, I'm an orthopedic surgeon—I made a sweep through the Southwest and went through Utah, California, and Colorado, New Mexico, Texas, and I chose Carlsbad out of many locations.

I remember coming into town and seeing the old carousel down at the President's Park and thinking this would be a great place to settle and a good place to raise a family.

One of the key drawing issues, or one the major attractions of this area is the fact that there are clear skies and clean air and the environment is relatively pristine.

With regard to the retirement community, with regard to tourism, these are always major attractions also.

I think, therefore, that anything that threatens the environment of Carlsbad is injurious to a lot of the benefit of the community.

I think probably even more important to actual injury to the environment is the perception that it may cause damage, the perception that perhaps somebody is not being truthful with us, the perception that perhaps somebody said one thing a number of years ago and says something else now.

The major area I would like to talk about is emergency preparedness. With regard to specifics, I have passed out some of the documents that I have gone over.

The first one is by Senator Bingaman in December of 1982. This is a supplemental stipulated agreement resolving certain off-site concerns over WIPP.

I find this to be an excellent document, and my hat is off to you, sir.

I would like to quote Page 15, first of all, last paragraph.

The DOE agrees and stipulates that it will provide advisory and technical assistance to the state, and then skipping down to the last sentence, by providing available training and educational materials and equipment to the state and local officials and emergency responders, as well as providing appropriate information to the public.

I've been active in our hospital. I was Chairman of the Board of Trustees for 3 years. I'm currently Chairman of the Department of Surgery. I have not heard one word at this time about emergency preparedness.

Last week two physicians and three nurses were sent off for some training. One of the WIPP site physicians, the Chairman of our Emergency Room Department, was sent off.

I find this to be totally inadequate at this time, as we're coming closer to WIPP being a reality.

I'd also like to quote from this document on Page 18, first paragraph.

DOE will provide federal funding to satisfy any outstanding balance of the state's request then existing no later than one year prior to any radiologic waste being brought into the state for emplacement at the WIPP site.

I believe we're at that one-year time, and I believe we have not meet that timetable.

Also, from Page 17, just a little note on the budget, which has been delineated there: Radiation detection and monitoring equipment acquisitions.

There's no figures supplied in there, and so far as I know, no devices have been purchased or planned for.

I would like next to refer to the next document, which is entitled "The Hazardous Material Emergency Response Program." This was supplied on July 12, 1986, by Mary Ann Walls. Mary Ann

Walls is the President of the American College of Emergency Physicians in New Mexico.

This is a person who has devoted some time in looking at emergency preparedness issues.

I would like to refer to Page 4 on that document, and I quote, the State Fire Marshal's office has recommended that specifically equipped vehicles be purchased and located in strategic areas along the WIPP routes to assure that local fire departments have adequate response capability. At least 10 fully equipped 1½-ton hazardous material vehicles will be needed.

I don't believe we have those.

Also, there is a list of equipment on the next page, which is what should be in those vehicles. Again, looking at No. 3 there, is radiological monitoring units. We do not have those.

Going on to the next——

Senator BINGAMAN. Let me just ask for a clarification. What's the date of this document that Mary Ann Walls—it's a year old?

Dr. BAGGS. That's correct.

Senator BINGAMAN. July 1986.

Dr. BAGGS. That is correct.

Senator BINGAMAN. Thank you.

Dr. BAGGS. The next document, and I have given you a brief copy of it, it's the National Council on Radiation Protection, management of persons accidentally contaminated with radionuclides, and you have gotten the part on what I quote from, which is on Page 30, 3.5.2.

Every plant, laboratory and hospital that handles radioactive material shall have a detailed emergency plan. The plan shall describe the emergency operating organization, define the lines of authority, responsibilities and functions of assigned qualified individuals. Agreements shall have been made with local police and fire departments, ambulances, rescue squads and hospitals so that all groups have a clear understanding of their assigned responsibility in the event of a radiation accident.

I know that we certainly do not have that. I doubt if very many hospitals along the WIPP route do.

I would like to conclude my section by quoting from the last paper that I handed out. This is again from the New Mexico Chapter of the American College of Emergency Physicians. It's dated 9-8-87 and the "resolved" are what I'll read.

That ACEP, that's American College of Emergency Physicians, strongly recommend that DOE and DOT abide by legally established transportation requirements and develop greater protective programs; specifically, clearly labeling transport vehicles, prenotification of passage of ladened vehicles over preannounced regular routes, and proper education of drivers concerning transporting radioactive materials.

And that again, that bypasses be built around population centers.

The second resolved: That ACEP strongly urge the DOE to develop a safe transportation container for this material which could substantially reduce the number of potential radiation released accidents.

Number three, that ACEP develop and recommend to DOE a protocol for adequately training emergency responders to deal with any nuclear waste accidents.

At the current time, I finished not too long ago talking our Chairman of the Department of Public Safety, the EMT's in this community have not had that.

Number four, ACEP join with the states to urge the DOE to provide funds for both this educational effort and equipment necessary to treat radioactivity contaminated patients, and decontamination both at the accident scene and with the treatment facilities.

I thank you for your time.

Senator BINGAMAN. Thank you very much for your testimony.

Our next witness is Robert Aly, who is with the Citizens for Alternatives to Radioactive Dumping, and he's a computer consultant, previously employed with the Office of Military Affairs, Civil Emergency Preparedness Division for the State of New Mexico.

We're glad to have you here.

Let me also indicate you have Dr. Phillips accompanying you, who is also very expert and involved in this, right?

Mr. ALY. Yes, sir, that's correct, and I'm going to try to make my statement short, and if it's possible, he would like to say a few words when I finish, with your permission.

Senator BINGAMAN. Why don't you go right ahead.

STATEMENT OF ROBERT ALY ON BEHALF OF THE CITIZENS FOR ALTERNATIVES TO RADIOACTIVE DUMPING

Mr. ALY. Thank you, Mr. Chairman.

The Citizens for Alternatives to Radioactive Dumping has been monitoring the WIPP Project for approximately the last eight years.

We've mainly concentrated in reading and analyzing the scientific reports, and when we haven't had the technical expertise to understand then, we always sought that out.

Basically, we have come to the conclusion that the geology at the site selected for the WIPP project is not suitable for a radioactive waste repository.

The likelihood of a pressurized brine reservoir below the site and karst conditions and the Rustler Formation above the proposed repository has convinced us that the WIPP Project will be unable to meet any Environmental Protection Agency standards, including Subpart B, specifically, the assurance requirements requiring multiple barriers.

In December of 1978 a letter was transmitted from Mr. Beckner, then of Sandia Laboratories, to Don Schuler, the WIPP Project manager. This was the letter that essentially recommended to the DOE that they select the present site.

In that letter Mr. Beckner said that in the GCR, that's the Geological Characterization Report, which was written in 1978, show that the siting criterion factors are satisfied by the Los Madanos site.

I have that letter, by the way, and I'd like to have that submitted into the congressional record at this time.

The problem was they were using the GCR as a basis to declare that the WIPP site siting criteria had met, and Lynn Gelhar, a scientist at that time who was working for the Environmental Evaluation Group, had written a report and in his view, he said, based on our review of the geological information in the Geological Characterization Report, and its references, we feel that it is inappropriate to state or imply that the site has been technically defined as suitable for a nuclear waste repository.

This information was contained in a draft report that he wrote while he was at EEG. The final version of that report, when it came out, this information was deleted.

It's basically our conclusion that the DOE has not tried to make all of the information available to everyone.

In the same letter, Mr. Beckner stated, that for WIPP the over and underlying aquifers represent a secondary barrier if the salt is breached. Accurate knowledge of aquifer parameters is important to construction, decommissioning and realistic calculations of the consequences of failure scenarios.

It is our contention that the DOE has not pursued accurate knowledge of aquifer parameters, but in fact has attempted to conceal knowledge of these parameters.

The brine reservoir underneath the site is within 200 feet of a drill hole, ERDA 9, which penetrates the center of the site.

This brine reservoir contains hydrogen sulfide gas, it's in concentrations that will kill you even if you're wearing a respirator.

Our concern is that the hydrogen sulfide gas could migrate into this drill hole, go up the drill hole, enter the repository, mix with the wastes and continue up the ventilation shafts to the Rustler Formation.

This brine is at 2,000 pounds per square inch pressure. Far from being a barrier to the waste moving out of the facility, it is a motivating force to push it into the environment.

Once the contaminated ground water reaches the Rustler Formation, it will flow out to the Pecos River. That's where the water in the Rustler Formation flows to.

Essentially what we're saying is there are no geological barriers to the movement of contaminated ground water at the site.

The final environmental impact statement stated that the travel time from the WIPP repository to the Pecos River was 300,000 years.

Larry Barrows, in his report, the amplifications of karst at WIPP has stated that this travel time could be as short as one month. That's quite a discrepancy, and I think it's a discrepancy that prevents us from knowing what's going to happen at WIPP, basically.

If the waste ever gets out of the salt, gets into the Rustler Formation, it will eventually be transported to the Pecos River.

Mr. Barrows conclusions, or rather Dr. Barrows conclusions are that the Rustler Formation is not a barrier to the transport of contaminated waste, that the WIPP site is regionally and locally a karst land, that flow in the Rustler Formation is expected to be highly irregular in both space and time through open channels, and under the right conditions, extremely fast.

Lokesh Chaturvedi of the Environmental Evaluation Group has written a report called the Rustler Formation as a transport medium for contaminated waste.

It was written by Lokesh and James Channell of the EEG.

His conclusions are that a reasonable travel time under karst conditions would be 114 years between the site and the Pecos River. If karst conditions exist at WIPP, the estimated annual dose to an individual from drinking contaminated Pecos River water would exceed the EPA Standard 40 CFR 191 if continuously ingested for more than 20 years.

The corresponding annual dose from drinking contaminated well water would be greater and would exceed the annual dose permitted for occupational workers after one year.

I don't know, I don't understand how we can proceed with this project when the DOE cannot tell you how long it might take contaminated water to travel from the WIPP site to the Pecos River.

I don't think there's anybody that can tell you what that factor is.

Dr. Phillips is here. I won't go into his conclusions. I'll let him tell you about his conclusions.

In consideration of all the scientific evidence that we've looked at, we urge the United States Senate to call for an abandonment of the present WIPP site and to search instead for a geologically sound repository site.

If this is not possible, we ask that the Senate ensure that stringent Environmental Protection Agency standards be developed and applied to the WIPP Project without variance, that's including Subpart B, before the wastes go in the ground.

One question I have is if we allow them to put the waste into the ground before complying with those standards, after two or three years they find that they can't meet the standards, are they going to retrieve the waste and bring this waste back out, 126,000 barrels?

And if they are, where are they going to take it?

The citizens of New Mexico, Texas and Mexico must be protected from possible radioactive contamination.

Thank you very much.

Senator BINGAMAN. Thank you.

Dr. Phillips, did you have some comments you wanted to make also?

Dr. PHILLIPS. Yes.

STATEMENT OF DR. RICHARD HAYES PHILLIPS

Dr. PHILLIPS. I would like to ask the committee, by restricting my comments, to propose amendments to the legislation.

I may have to say a paragraph or two about my conclusions about the WIPP site, because I thought Mr. Aly was going to do that.

At the request of Gary Townsend in Congressman Richardson's office, I drafted amendments to the WIPP land withdrawal bill, and I just want to touch on four of the most important ones, some of which have been discussed previously today.

One is that the WIPP site demonstrate compliance with Subpart B of the EPA standards before any waste is emplaced.

Number two, that the DOE demonstrate their ability to seal the WIPP site before any waste is emplaced.

Number three is no high-level waste experimentation.

Number four—this hasn't been brought up at all today—is to reclassify the remotely-handled transuranic waste as high-level waste and keep it out of the WIPP site.

The suggestion to classify it as high-level waste came from Gary Townsend, in Congressman Richardson's office, and I thought it was a great idea.

The basic reason that I oppose any waste emplacement until EPA standards are complied with, aside from simple common sense, is that we run a grave risk if we do not demand this.

In what's known as a karst land, in which the WIPP site is situated, ground water flows through discrete underground channels, open conduits, caverns, in specific flow paths, none of which have been penetrated by any of the WIPP site hydrologic test wells.

If we allow the Department of Energy to emplace waste at the WIPP site, they will then point to the lack of contamination in their hydrologic test wells as evidence that the site is working, and it is a foregone conclusion that they will not find contamination in these wells because the ground water doesn't flow to those wells. It doesn't flow uniformly as it might in another rock medium.

As far as demonstrating the ability to seal the WIPP site before any waste is emplaced, several years ago when the ventilation shaft was drilled, up to one gallon of water per minute was entering the ventilation shaft from the overlying Rustler Formation, seeping into the shaft and flooding the tunnels of the WIPP site at the waste emplacement level at any time that the ventilation fans were turned off.

Since then, the shaft was enlarged and attempts were made to seal it. And I'm informed by Dr. Chaturvedi of the EEG that the seal has failed and that more water is entering the WIPP site now than previously.

And I ask the committee to use its common sense and ask if the first attempt to seal the shaft failed in a matter of years, why should the next attempt last for the required period of waste isolation.

I think it is critical that the ability to seal these shafts be demonstrated before any waste is emplaced.

And on both of those points I would prefer than an independent agency, such as the USGS, certify this compliance rather than have the Department of Energy allow it to self-certify its site.

On high-level waste experiments, I don't see any reason why this waste to be emplaced in the WIPP site at all. It has never been explained what is to be gained from this, what the experiments actually entail and why the emplacement of high-level waste at the WIPP site would be necessary.

In fact, it might even stack the deck in favor of the Deaf Smith County site for the commercial repository.

I want to spend a little more time on the remotely-handled transuranic waste. In the final environmental impact statement two different kinds of transuranic waste were discussed.

For the audience here, let me explain that the word transuranic only means that the waste contains radioactive isotopes with atomic numbers heavier than uranium; for instance, all isotopes of plutonium.

Therefore, any waste containing plutonium can be classified as transuranic and called not high-level, not low-level, just something else, just transuranic. That's all it means. It doesn't mean it's not high-level waste.

Now, they have two different classifications of transuranic waste. The canister that you saw up here earlier today is contact-handled, people can pick it up with their hands and move it around.

In the final environmental impact statement remotely-handled transuranic waste, which has to be handled by machines, is too hot to handle by human hands, was given an upper limit of 100 rems per hour as a surface dose rate on the casks.

In the land withdrawal bill this has been multiplied by ten and the allowable surface dose rate is now 1,000 rems per hour, which is a flagrant violation of the final environmental impact statement.

Now, if you use the Department of Energy's own figures as to the medical implications of specific doses of radiation, you conclude that for a person in contact with an intact, unbreached cask of remotely handled transuranic waste, or RH TRU, as I will call it, one could expect alteration of chromosomes in 18 to 90 seconds, alteration of white blood cells in three minutes, radiation sickness in 4½ to 7½ minutes.

This is, of course, why the waste is remotely handled, but there are other problems with it, too.

There were some radio shows in Taos, New Mexico, from which some of the following information will come, interviews with people from Westinghouse and others associated with the WIPP Project.

It came out that truckers would be approximately ten feet from these casks as they trucked them across the highways. At a dose rate of 1,000 rems per hour at perhaps a foot from the cask, this works out to about 10 rems per hour at 10 feet away, and one could expect a dose that might induce radiation sickness in 7½ to 12½ hours, and I do not see how these truckers are going to be able to move this waste across the country.

Once it gets to the site, this waste will be remotely handled. They remove it from the transportation cask in a hot cell to protect the workers, and lower it down the shafts of the WIPP site and put it in the waste emplacement room.

At that point, however, it's not remotely handled. The workers have to go down there, open the panels on the burial cask and expose themselves to a dose defined by Joe McGuff, the former project manager, as 20,000 rems per hour.

They have to stand 4 feet away with plungers and push this into its proper location. And at a dose of 20,000 rems at a foot away, that works out to about 1,250 rems at 4 feet away and radiation sickness could be expected in a matter of 3½ to 6 minutes.

I think this exhibits a depraved indifference to human life.

I also did some calculations on what happens if there's an accident with this waste by simply redefining the assumptions that

were made in the final environmental impact statement and using an average wind velocity.

If you assume that only one percent of the waste escapes the cask, one could receive radiation sickness in an hour at 500 feet away, and could receive a dose sufficient to induce death within 2 weeks at 175 feet away.

If you assume that half of the waste is released, one could receive radiation sickness at 3,500 feet away and could receive a dose that would induce death within two weeks at 1,250 feet away, approximately.

I just want to close with a brief statement as to the hazards of the site, as simply as I can.

The ultimate danger is that contaminated water will reach the Pecos River through the Rustler Formation above the WIPP site, which is known to be cavernous. Ground water can be flushed through those caverns at very rapid speeds after major rainstorms.

This was demonstrated by my doctoral work at the WIPP site, which showed that the shallow limestone layer in the desert soils known as caliche is pock-marked with holes resembling Swiss cheese in many areas, and in other places has very large sink holes.

Rainwater is capable of reaching the Rustler Formation and carrying ground water out very rapidly to the accessible environment, which is a salt lake near the Pecos River. And in times of major flooding, the ten-foot high ridge between the lake and the river can be breached and contaminated lake sediments would find their way into the Pecos River.

If you're wondering how the Rustler Aquifer above the waste repository could become contaminated, well, that would be through the pressurized brine reservoir underneath the repository, which is known to be capable of rising to the land surface when it is encountered in drill holes. And this is the geologic mechanism which can allow the waste to become dissolved and rise up the man-made WIPP shafts and into the overlying Rustler Formation.

So all the geologic mechanisms are there and all you need for a breach of the WIPP site is for the brine to find its way into the waste repository.

Thank you.

Senator BINGAMAN. Thank you very much.

Our final witness is Don Hancock, who is with the Southwest Research and Information Center. Don is the Director of the Nuclear Waste Safety Project for the Southwest Research and Information Center.

Don, we are glad to have you here to testify.

STATEMENT OF DON HANCOCK, DIRECTOR, NUCLEAR WASTE SAFETY PROJECT, SOUTHWEST RESEARCH AND INFORMATION CENTER

Mr. HANCOCK. Thank you, Mr. Chairman, and Members of the Committee.

I am painfully aware that being last, you would like for me to be very brief, and I will try to do so, hoping that you have endured this long day and still have some questions you might be interested

in asking, because while I congratulate the committee on having this hearing, I would point out that it's the first congressional hearing on WIPP since 1981.

It seems like this is past due and I appreciate your indulgence, but these are complicated issues, as you've tried to address today, and I think for that reason there is in fact some need for some additional hearings, perhaps additional field hearings in other parts of New Mexico and certainly additional hearings in Washington to get some further information on some of the contested issues, especially related to the EPA standards.

It's interesting to note briefly that the information you got today from Mr. Meyers with the Environmental Protection Agency is consistent with the kind of information that EPA has been putting in their regulations.

They have been sued twice in court by a variety of parties on that, and in both cases it wasn't EPA's interpretation of the rules that the court has upheld.

I would suggest that some of the other parties to that litigation would be appropriate people for you to hear from in terms of both of substance and the applicability of the standards, because I do believe that some of Mr. Meyers' statement is in error.

In the interest of brevity, I won't go through a number of things in my testimony about those provisions of the bill that I think are appropriate and some suggestions for some amendments that are included in the last couple of pages of my testimony, and I'd like to basically deal with just two issues that have taken a lot of attention today, and I'd like to give a little more of my views on that.

One is the high-level waste experiments and the other is the EPA standards.

We don't know very much about those high-level waste experiments, as has already been pointed out today. One of my concerns is the way those experiments are described in the only document that matters up to now, which is the final environmental impact statement, which says that some of these would be bare wastes, in other words, the waste, the high-level waste would be put directly under the salt, and that the high-level waste would be spiked—again, that's the Department of Energy's word—spiked with cesium 137 to approximate spent fuel, not to approximate defense high-level waste.

I think that raises some very serious health and safety concerns for both the public and the workers, and I think it raises major concerns also in regard to what the purpose of these experiments are.

It also raises grave concerns about whether, regardless of what the Department of Energy says, those experiments in fact would be retrievable.

There is significant evidence, and I have submitted some of it in my testimony, that there are reasons—even the Department of Energy is aware—that the experiments may not be needed and that the cost might be high.

At a time when you gentlemen are appropriately concerned about costs of some of the things that local officials and the State of New Mexico has asked for, I hope that for the record you will ask the Department of Energy specifically what the costs of these

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high-level waste experiments are going to be and how they're justified now, so you have some basis to compare that in the future.

Another point that I think is important, and I was surprised the National Academy of Sciences didn't mention the fact that the issue of do we need a test facility for waste before we have a repository, has already been decided by the Department of Energy and they said no.

In the Nuclear Waste Policy Act, which some of you gentlemen were involved in, there was a specific provision allowing, authorizing and allowing the Department of Energy to develop a test and evaluation facility to do in situ testing before we get to having a high-level waste repository.

The Department of Energy has concluded that that facility is not needed at the present time, and if it is needed, it would be needed in the future, it would be co-located with the repository.

So again it seems to me that that issue has been resolved several times over and I fail to see the use and importance of the high-level waste experiments. I am concerned about the cost of them and I'm concerned about the dangers.

So I don't think that we are prepared to go forward with those experiments, and even the provision of the bill as proposed which calls for a report, calls for that report in two years, and given the lack of information we have on those experiments, I don't think you're going to find a very technically sound and complete report because I don't think the Department of Energy is going to have a good idea within two years what the experiments are going to be, let alone what the risks and benefits are going to be.

The other issue I want to address briefly is the EPA standards, and I guess in trying to look at this issue I am concerned that some factual matters have been overlooked.

The situation we are currently in, in which the design of the WIPP facility is in question and the compliance with nonexistent Subpart B EPA standards is the reality which you gentlemen brought out quite well this morning.

That situation also was the case in 1979, at the time the Department of Energy produced their draft environmental impact statement on this project.

In my organization and other organizations specifically raised the issue at that time, in 1979, to the Department of Energy, and the Department of Energy, understanding that situation in 1980 in their final environmental impact statement made a very clear, specific response, which I quote in its entirety in my written statement.

It's on Page 1513 of the final environmental impact statement. Let me just read one sentence: If Alternative 2, which is the current WIPP mission, is chosen, the WIPP design will be modified as necessary to comply with legally applicable EPA rules and regulations promulgated in the future.

So there you have DOE understanding it may not have EPA standards, yet there will be EPA standards in the future and it may be necessary in fact to change the design of WIPP to meet those standards.

I would submit that in fact that's the current situation we're in, and the Department of Energy's position should not be changing,

they should comply in toto with those standards before any waste goes in.

I would also point out again what both the EPA and the quote I just mentioned from DOE say, the standards are design standards, they have to apply before any waste goes in the ground, because the design that you use for the facility comes before you put the waste in the ground.

You can't redesign after you put it in to try to meet the standards.

Any other repository in this country will be required, not to put 15 percent of its waste in, but to put no waste in the ground before it demonstrates total compliance with those Subpart B standards.

I see absolutely no reason that the health and safety of New Mexicans and the legal procedures set out by the Congress, by the EPA and by the NRC should be changed for this facility, which is supposed to be a research and development facility to show us how to best do things.

And how to best do things is not to create a situation where we don't require of WIPP what we require of other facilities.

Another issue of grave concern to me is the way the bill is written, with this 15 percent by volume. You would allow every single bit of the remote-handled TRU waste, which is the majority of the curie content of the waste to be permanently disposed of at WIPP.

All of that waste, under the way the bill is written, could be emplaced at WIPP with no showing of compliance with the EPA standards.

It is well under 5 percent of the volume of WIPP and you're allowing 15 percent of the volume of WIPP to be emplaced without any showing of compliance with the Subpart B standards.

I find that incredible.

Another issue I want to raise, and I think it might be well for the record to clarify this in the future. I raised an issue—Senator Bingaman asked a question to Dr. Chaturvedi this morning about if you put the 15 percent in, might there be a necessity of a waiver in the future.

And my answer to that is, certainly there is a possibility of a waiver. It's quite difficult and it may be technically impossible to pull out, rearrange, rework that 15 percent without a waiver.

I was a little surprised that that wasn't Dr. Chaturvedi's answer. In talking to him since that time, he agreed with me that that is a possibility that he hadn't thought of at the time of the question, and I would hope to clarify the record, you might formally request that he clarify his answer so it's not me speaking for him or anybody else speaking for him, but he can speak for himself.

The logical issue that I would ask the committee to carefully consider is the following. The way that a repository is judged to be suitable, technically suitable is not on the basis of any person's opinion. It's on the basis of standards, standards set by the Environmental Protection Agency.

On the one hand, the Department of Energy is able to say that the site is suitable, it should be able to show that the site is suitable and it complies with the EPA standards.

Dr. Weart testified this morning that today they couldn't show that the WIPP site complies with those EPA standards.

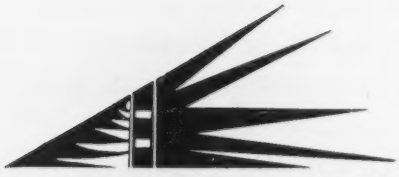
How can the site then be declared to be suitable?

It seems to me clearly the case that you can't have it both ways. If you say the site is suitable, it should be able to meet the EPA standards. If it can't meet the EPA standards, it can't be declared to be suitable, and so we should not be saying that it is suitable until it does meet those standards.

I've gone on longer than I wanted to, so I will stop, and I hope you have some questions.

Thank you very much.

[The prepared statement of Mr. Hancock follows:]



SOUTHWEST RESEARCH AND INFORMATION CENTER

STATEMENT OF DON HANCOCK

REGARDING WIPP LAND WITHDRAWAL ISSUES

BEFORE THE

SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SUBCOMMITTEE ON PUBLIC LANDS, NATIONAL PARKS AND FORESTS

MONDAY, OCTOBER 12, 1987

CARLSBAD, NEW MEXICO

P.O. BOX 4524 ALBUQUERQUE NEW MEXICO 87106 505 - 262-1862

Good afternoon, Mr. Chairman, members of the Committee, and members of the New Mexico congressional delegation. Thank you for the opportunity to testify. I am Don Hancock, Administrator and Director of the Nuclear Waste Safety Project at Southwest Research and Information Center (SRIC), a nonprofit educational and scientific organization based in Albuquerque. As many of you are aware, SRIC has been interested in WIPP for more than a decade. We have also been actively involved in high-level nuclear waste management issues nationwide over the past eight years.

First, let me congratulate you on having this field hearing on WIPP, the first such congressional hearing since May 18, 1981, when House Interior Committee Chairman Udall and Rep. Lujan held a hearing on WIPP land withdrawal issues in Albuquerque. Nevertheless, I would urge that at least one additional field hearing be held in Albuquerque or Santa Fe to allow other local officials and citizens to testify, since WIPP affects the entire state of New Mexico, not just the southeastern counties. Moreover, because of the national interest in and the national importance of WIPP, hearings in Washington, D.C. should be held to allow national organizations and other affected states to testify.

Briefly, SRIC's fundamental conclusion is that S. 1272 has two very significantly flawed sections. Moreover, we believe that any land withdrawal bill is appropriate only when all other outstanding technical, legal, and institutional issues are resolved. Since several important issues have not been resolved, we feel that while a land withdrawal bill should be considered, it is premature to mark-up or enact a land withdrawal bill at this time. Among the various unresolved important issues are:

1) WIPP has not been shown to meet the EPA standards. Until those standards are re-promulgated and full compliance is demonstrated, WIPP should not be authorized to operate nor should a land withdrawal bill be enacted.

2) NEPA compliance for WIPP transportation has not been completed.

3) New transportation containers for contact-handled TRU waste are being developed, but they have not been subjected to full-scale testing (which we believe they should be) nor certified by the NRC.

4) Required transportation safety measures, including highway improvements and bypasses, training programs for emergency response personnel, and adequate equipment for emergency responders and improved medical facilities are not available, nor has DOE committed to ensuring that such safety measures are in place before any waste is transported to WIPP.

SRIC supports certain provisions of S. 1272, including banning surface or subsurface mining (Sec. 4(b)(5)), encouraging business and employment opportunities (Sec. 4(e)), and requiring a decommissioning management plan (Sec. 5). However, my testimony will focus primarily on provisions of Sections 6 and 7, which are totally unacceptable in their current form, and will briefly mention other issues which have not been adequately addressed.

1) HIGH-LEVEL WASTE EXPERIMENTS

Section 6 of S. 1272 requires DOE to publish a detailed plan describing the proposed high-level waste (HLW) experiments. This provision recognizes the fact that those experiments have never been adequately described or evaluated, not even in the WIPP Final Environmental Impact Statement (FEIS). Any decision to proceed with unprecedented "bare" high-level waste emplacement in salt, "spiked with cesium-137" as mentioned in the FEIS, p. 5-8, creates signficiant health and safety problems for workers at the site as well as the public from transportation to and from the site.

While at one time high-level waste experiments were considered to be useful and perhaps even necessary tests for a licensed high-level waste repository, circumstances have changed significantly since 1980 when the FEIS was issued or even since the First Modification of the Consultation & Cooperation Agreement was signed in November 1984. First, President Reagan decided on April 30, 1985 that a defense only repository is not required, so military high-level waste will be disposed of in a commercial repository. Thus, technically, the bounding waste form parameter for a repository will be spent fuel, not defense HLW. The DOE Inspector General concluded that the HLW experiments were costly and unnecessary (DOE/IG-0207) and the DOE Assistant Secretary for Defense Programs had determined by February 1986 that the HLW experiments were not necessary. Second, the WIPP experiments were assumed to be needed to help demonstrate licensability of a defense only repository. However, NRC's licensing standards (10 C.F.R. 60) do not require any such in situ experiments. Moreover, since the Nuclear Regulatory Commission (NRC) is not involved with WIPP, information generated by WIPP not subject to NRC's quality assurance requirements would have no value in a licensing proceeding. Third, DOE determined that for a commercial repository no separate Test and Evaluation Facility was necessary, even though one was authorized by the Nuclear Waste Policy Act. Instead, DOE determined that if such a TEF was necessary, it would be colocated with a repository. (DOE/RW-0005, Mission Plan, June 1985, Vol. I, p. 267) Fourth, recent geologic information about the site, including the accelerated rate of closure and the cracking of the anhydrite, raises new and serious questions about the technical capability to retrieve the high-level waste, the costs of retrieval (which is not authorized or funded by Congress), and the risks to workers.

There are other factors to be considered also. First, no geologic disposal site for HLW or spent fuel has been chosen and according to DOE's Mission Plan Amendment (DOE/RW-0128, p. 6), no commercial repository will be in operation until at least 2003, 15 years after WIPP is scheduled to become operational. If HLW is emplaced at WIPP, and given the strong probability of continued problems with siting a commercial repository, it is not unlikely that a future Congress would decide that WIPP should also be used for HLW disposal, since it would then be the only site where HLW would actually be stored deep underground. Moreover, some could say that the site was large enough to handle HLW since the 10,240 acres that would be withdrawn by S. 1272 is a considerably larger area than the 5,760 acres that DOE feels is required for a HLW repository in bedded salt (Deaf Smith County, Texas, Environmental Assessment (DOE/RW-0069), May 1986). Second, the health and safety consequences from transporting the HLW into and out of WIPP have not been adequately evaluated. Third, the costs of the HLW experiments, including development of the waste form, the transportation containers, and the costs of retrieval and possible re-packaging, are difficult to predict but would be considerable. Why should the taxpayers be charged such unnecessary costs?

Thus, SRIC believes that high-level waste experiments should be excluded from WIPP and that Section 6 should be amended to prohibit any testing, storage or disposal of any high-level wastes. If in the future, DOE believes that it can show that HLW experiments at WIPP are safe and essential, such a proposal should be made in a NEPA document to ensure adequate state and public involvement and judicial review if necessary.

2) COMPLIANCE WITH EPA STANDARDS PRIOR TO WIPP RECEIVING ANY NUCLEAR WASTE

Section 7(a)(1) of S. 1272 requires DOE to comply with 40 C.F.R. 191, Subpart A. SRIC agrees that such compliance is necessary, and we also believe that existing law already requires such compliance.

Section 7(a)(2), which allows 15 percent of the total volume of transuranic waste to come to WIPP prior to complying with 40 C.F.R. 191, Subpart B, has no technical or legal basis and should be removed from the bill. Why should almost 1 million cubic feet of TRU waste be allowed into WIPP prior to complying with the EPA standards when any other repository must demonstrate full compliance with EPA standards before any waste can be brought to the facility? What basis is there to overturn the clear scientific requirement included in the EPA standards that a TRU disposal facility must meet the same standards as a HLW facility? SRIC believes that there is no technical or legal basis for the 15 percent exception, rather it seems based on the fact that DOE cannot show that WIPP would comply with the EPA standards by the arbitrary bureaucratically established date of October 1988 to open WIPP.

In promulgating its standards for repositories on September 19, 1985, EPA clearly stated that its standards "must be implemented in the design phase for these disposal systems because active surveillance cannot be relied upon over such [long] periods." (50 Federal Register 38070) The standards clearly apply to all TRU and HLW repositories, both those licensed by the NRC and those DOE repositories exempt from licensing. On their face, EPA standards not only require that DOE facilities meet all standards that licensed repositories must meet, but the 40 C.F.R. 191.14 assurance requirements apply only to DOE facilities, such as WIPP.

DOE is not unaware of its requirement to meet EPA's standards. In the WIPP Final Environmental Impact Statement of October 1980, DOE stated:

> "Issue. The DOI and several public-interest groups said that the development of the WIPP project must take into account EPA regulations for radioactive-waste repositories. Since the EPA regulations have not yet been promulgated, the WIPP project may need to be delayed until they become available.
> Response. The design of the WIPP to date has been consistent with the EPA draft criteria for radioactive wastes published in the Federal Register on November 15, 1978. If alternative 2 is chosen, the WIPP design will be modified as necessary to comply with legally applicable EPA rules and regulations promulgated in the future." (p. 15-13)

In the First Modification of the Stipulated Agreement, signed in November 1984, and approved by DOE Secretary Hodel on January 18, 1985, DOE agreed:

> In carrying out this stated mission, DOE and WIPP will comply, at a minimum, with all applicable state, federal and local standards, regulations and laws, including any applicable regulations or standards promulgated by the Environmental Protection Agency (EPA).

Thus, DOE has known for more than 7 years that WIPP has to comply with EPA standards. After acknowledging the need to meet EPA standards in 1980 and promising to meet them in 1984, why does DOE now reject full compliance? The only logical answer is that they cannot now demonstrate compliance with the EPA standards. There are three possible explanations as to why such compliance cannot now be demonstrated.

First, because WIPP is the first time that the standards are applied, developing adequate data and models will be complicated and take some time. Precisely because the application of the EPA standards at WIPP will set the precedent for future use of the standards, demonstrating compliance with the EPA standards is essential. Moreover, since a primary purpose of WIPP is to be a research and development facility, an important aspect of WIPP should be to help DOE develop the models and experience it will need to successfully demonstrate compliance with the standards at any other repository.

3) OTHER ISSUES

1) SRIC supports the need for impact assistance, but believes that past experience and other legal precedent requires some changes in the approach used in Section 4(f). First, DOE should not be developing the economic impact plan since the agency's budgetary interest will be to make the annual impact assistance payments as low as possible and because DOE cannot adequately determine the impacts and needs of the state and local communities. Rather, similar to the requirements of Section 116(c)(2) of the NWPA, DOE should fund the State of New Mexico to prepare such a economic impact plan after consultation with affected local communities. Second, the annual impact assistance payments should not be limited to the state and "affected counties of southern New Mexico;" rather any affected community in the state should be eligible to receive impact assistance. For example, many communities throughout the state will be impacted by WIPP waste shipments and should receive impact assistance for their roads, medical and hospital services, police and fire departments, and other services. Third, while the impact assistance payments should go to both the state and to local communities, the undefined term "appropriate units of local government" should be changed to "all affected governmental entities." DOE has already interpreted the phrase "unit of general local government" of Section 116(c)(3) of the NWPA to exclude special assessment districts, school districts and other local governmental bodies. Therefore, SRIC believes that impact assistance payments should be available to affected county or municipal governments, school districts, hospitals, special assessment districts and other taxing entities. Fourth, Section 116(c)(3) of the NWPA allows local units of government to levy taxes on a repository facility, which otherwise could not be taxed. A similar

Second, DOE cannot demonstrate compliance with non-existent standards. The EPA standards, promulgated on September 19, 1985 were declared invalid by the First Circuit Court of Appeals on July 17, 1987. In its amended order of September 23, 1987, the Court denied EPA's request for a rehearing and again re-affirmed the decision to invalidate all of Subpart B and refer the subpart back to EPA for reconsideration and repromulgation. Thus, until the standards are re-promulgated, there can be no showing that WIPP or any other site meets the standards.

Third, perhaps WIPP can never meet the now invalidated standards nor more stringent standards required by the court. The controversy about whether WIPP is a technically suitable site can only be satisfactorily resolved through an open, technical process which demonstrates compliance with EPA standards.

Whatever combination of these explanations is true, none of them obviates the technical, legal, or health and safety reasons to require that WIPP fully comply with the EPA standards before the facility receives any waste. After considering scientific and public comment, EPA determined that any repository, including WIPP, must meet all requirements before the facility becomes operational. Any bureaucratic pressure to meet an arbitrary schedule for WIPP to open should not supercede the technical and legal requirements that WIPP meet health and safety standards.

Therefore, Section 7 should be changed to require compliance with EPA standards before waste can be emplaced. At a minimum, if existing law requires compliance with EPA standards, Section 7 should be eliminated.

provision should be added to the land withdrawal bill, explicitly allowing the various units of local government mentioned above to levy such taxes.

2) It is shocking that S. 1272 contains no provision that explicitly states that Congress requires that WIPP should not endanger public health and safety. Such a provision should be added to the bill.

3) Either in the land withdrawal bill or in companion legislation, all transportation issues important to protect public health and safety in New Mexico and other affected states must be addressed. Such legislation should require and fund necessary highway and railroad improvements, require and ensure ongoing funding for training of emergency responders, and provide funding throughout the lifetime of the facility for adequate medical facilities for treating accident victims.

4) Since WIPP is intended to address the long term problem of transuranic waste management, Congress should require that DOE comply with the recommendations of the General Accounting Office, contained in the GAO report of March 1986 — Nuclear Waste: Department of Energy's Transuranic Waste Disposal Plan Needs Revision (GAO/RCED-86-90). Such DOE action is necessary for Congress to determine whether the existing and long-term TRU waste management problems can be resolved by WIPP.

Finally, I would request that the hearing record be left open for a reasonable time to allow for the submission of additional written information, including DOE's responses to questions raised during the hearing.

Thank you for the opportunity to testify. I would be happy to respond to any questions.

Senator BINGAMAN: Thank you very much. [Applause.]

Let me start and ask a few questions.

Let me ask Joe Goldberg first. He was saying that on the EPA standards, I understand your testimony, Joe, you were saying that if the choice were between the language we have in the bill now, with regard to EPA standards, which permits up to 15 percent of the capacity to be put in the facility before EPA standards are met, if the choice was between that language and no language, no legislative language, you would prefer no language.

Is that what I understood, or did I misunderstand you?

Mr. GOLDBERG. No, Mr. Chairman, you correctly understood me. If the choice were only between the language that is presently in Section 7 of the bill, or no language at all, I would, and I believe I'm speaking for the Committee to Make WIPP Safe, we would prefer no language at all, which would then leave the matter without any direct legislative statement on the issue and would leave it between the DOE and the EPA and probably then the courts.

Senator DOMENICI. Now, just to explore that a little more, there is presently no federal statute mandating compliance with EPA standards at the WIPP site, is that correct? Is that wrong?

Mr. GOLDBERG. No. No, it's not that—my understanding is the same as yours, Senator.

Senator BINGAMAN. OK. The compliance with EPA standards at the WIPP site is a result of the C&C agreement that the state and the Federal Government have entered into or it's the result of general authority that EPA has to impose their standards on the Department of Energy.

Mr. GOLDBERG. As a lawyer, that's where I would look for the authority, correct, Senator.

Senator BINGAMAN. But you think there is enough of a legal basis to assert EPA standards without us legislating it?

Mr. GOLDBERG. That's a tough question. I'll answer it this way. I don't pretend to be an expert in the area of environmental law. I have asked others who are experts for their opinions.

Those others have given me the opinions which, together with my own review of the situation, leads me to the conclusion that the protections would be better without the language in the bill than with the present language that is in the bill.

So if that's an answer to your question, yes, I believe that the position that I am advancing, that is that EPA standards would be met, would be better advanced without the language that you presently have in the bill.

I offered yet a more preferable alternative, which you have not——

Senator BINGAMAN. Right.

Mr. GOLDBERG [continuing]. Which I think you understand and that's why you're not asking the questions about it.

Senator BINGAMAN. The preferable one is to legislate full compliance.

Mr. GOLDBERG. Put directory language in the bill itself.

Senator BINGAMAN. Correct.

Mr. GOLDBERG. But setting that aside, that it might be politically infeasible, or for whatever reason, my preference would be to have no language at all rather than the language that is in the bill.

Senator BINGAMAN. Let me ask Don Hancock if he agrees with that.

Dr. HANCOCK. Yes, as a general matter, I do agree with that. I do think, however, that this again is one of those questions that would be useful for the committee to explore in more detail, and there are a variety of people in the country who are, I think, more legal expert in this matter, with great deference to Mr. Goldberg and myself on that.

And I do think that's information that might be useful to the committee and again is a reason to have some more look at that issue from other witnesses who are not here and able to testify today.

But as a general principle, I think that's true. I would add, under the Energy Reorganization Act there is authority for standards, separate and apart from the authority in the Nuclear Waste Policy Act for EPA to promulgate these standards.

Senator BINGAMAN. Thank you.

Let me ask Joe Goldberg also, I think you indicated that with regard to high-level waste, you see it as a risk-benefit analysis that needs to be done, and in your view, the benefits have decreased, the risks have increased.

Could you be a little more precise or specific about what risks you see that have increased?

Are these risks safety risks at the site, or are you referring to the fact that the risk of it becoming a high-level waste facility is greater because of tall the news media coverage, or what?

Mr. GOLDBERG. My understanding is, and again here I'm not an expert, but in talking to people who are more knowledgeable than I, we do know more about the geologic and hydrologic formation in 1987 than we knew in 1981 and 1983 and 1984, and that's perfectly understandable.

My understanding, not just from reading the newspapers, but my understanding from the EEG reports and talking to people is that we are more concerned today about the brine that is under the formation and characteristics of the Rustler Formation than we were in 1984, when I signed the first amendment to the C&C agreement or in 1981 or 1979.

Those are the risks, Mr. Chairman, that I was addressing, not the political risks with respect to this might ultimately end up, because of just lethargy, as a high level.

But I think that as I understand most of the scientific opinion is that it's more risky now than it was before. Taking risks is not unacceptable to me. It's just a question then of a calculus.

I think now we find the situation more risky. I think we ought to look on the other side, what are the benefits that we're getting from that, and then other people, aside from myself, address those benefits, including the DOE, as to whether we're really going to get the type of benefits for policy decision making that warrant the taking of those risks.

Senator BINGAMAN. Let me ask Dr. Baggs just one question here. You gave us a resolution dated the 8th of September by New Mexico ACEP. Is that the right pronunciation?

Dr. BAGGS. Yes, sir.

Senator BINGAMAN. And what's the organization's title again, could you give me that?

Dr. BAGGS. The American College of Emergency Physicians is an organization that takes only certified emergency physicians who have been through their residency programs. This is from the New Mexico Chapter, and this is their resolution.

Senator BINGAMAN. Could you just elaborate a little on that organization and in particular, the New Mexico Chapter of it, as to how many physicians this represents and how broad based the concern is that you are expressing to us among the medical community here in the state?

Dr. BAGGS. Unfortunately, I cannot as much as I would like to. The president of the New Mexico Chapter is Mrs. Walters, and she planned to be here today. Unfortunately, she's ill and she asked me to present this as part of my testimony.

It's my understanding that the emergency physicians throughout the state, the vast majority of them are board certified emergency physicians that are members of this committee.

With regard to numbers, I doubt if the numbers are that impressive, probably no more than 100 to 200 physicians. But these are the physicians in the emergency rooms.

Senator BINGAMAN. All of the testimony that we have received, at least from this panel, has certainly tried to make the case that the emergency response network and the emergency response preparations contemplated by the earlier agreements the state entered into have not been—that assistance has not been provided as yet.

You said that two nurses from the local hospital had gone off to receive training, and maybe you indicated some other training was taking place.

Could you describe to me if that's part of a larger plan or if you know if that's a one-shot circumstance?

Do you have any idea what is planned with regard to emergency response activities here in Carlsbad?

Dr. BAGGS. It's interesting that there has been a sudden increase in the interest in this issue over the last couple of months.

The American College of Emergency Physicians presented some requirements and some resolutions far earlier than this, and over the past month there's been a lot of activity.

Specifically, what I referred to in our local hospital is there have been two physicians and three nurses that returned a week ago yesterday—a week ago today, sorry, 1 week ago, from approximately a 2-day course up in Albuquerque.

To my knowledge, that's the only didactic training which has been carried out at our hospital at this time.

I would like to take this opportunity—you asked about the high-level waste. There's no question that one of the risks of high-level is an increased problem with regard to emergency preparedness.

The higher the radioactivity content, the greater the potential for misadventure, the greater the potential for environmental problems.

Senator BINGAMAN. Thank you very much.

Pete, did you have some questions?

Senator DOMENICI. Yes, Mr. Chairman.

First, I want to thank all of the witnesses. You have been extremely patient, and obviously, if you—we do understand that we look tired and we perhaps act tired, but frankly, you've been very stimulating and we are most appreciative.

Mr. Chairman, I wonder, with reference to the current state of affairs between the Department of Energy and any of their emergency assistance, I wonder if we might, based upon the testimony, just submit a committee question to them to bring us current on what they are doing, what they have done, and it appears to me that they have a time limit, that they're supposed to be doing many of these things at least one year before any movement, that we ought to ask them for the record where things are.

Could we do that, Mr. Chairman?

Senator BINGAMAN. Yes, I think that's an excellent idea.

Senator DOMENICI. My second question, Robert Aly, I didn't get the doctor's name that's with you. What is his name, just tell me.

Dr. PHILLIPS. Dr. Phillips.

Senator DOMENICI. Dr. Phillips.

Mr. Chairman, I would also ask, since frankly I have never heard testimony, in particular, the last testimony that we've heard, I've never heard that kind of testimony about WIPP.

I would ask if you might consider asking the Department of Energy, National Academy of Sciences, to review the testimony and submit their evaluation of that testimony to the committee before the record is closed.

Dr. PHILLIPS. I'm going to be submitting extensive written comments at a later date which could be responded to.

Senator BINGAMAN. Well, we would be glad to have the National Academy review what you've submitted or what you do submit and give us their reaction.

Senator DOMENICI. I thank you very much, Mr. Chairman.

Mr. Hancock, let me just tell you, I'm a little bit confused now about where things might have stood had we not gotten the new agreement with the Department through the Governor and the Attorney General, and if we do not include some limitation like the 15 percent, that's too high, that's what we heard testimony about this morning, maybe it should be a smaller number.

I'm now somewhat confused because I thought you were concerned, within the last four or five months, three months, that the status of affairs between the environmental regulatory schemes and the Department of Energy and the then existing arrangements and the current state of legislation.

And if I'm wrong in this assumption about what I thought you were worried about, please just tell me quickly and I'll get off the issue.

I thought you were worried that as a matter of fact they might be able to store as much as 25 percent of waste in here as part of an up-front experimental program under storage regulations, and you were looking for some way to limit it.

Now, maybe I read you wrong, maybe I understood you wrong, did I?

Mr. HANCOCK. I think you must have, if that's what you understood.

The position of the organization, going back to 1979, has been full compliance before any waste goes in and that the legal authority exists to require that.

Senator DOMENICI. That's not my question. I'm doing very poorly.

What I was saying is if we did not have a new agreement, the one that says no more than 15 percent, and says they will be bound by the EPA regulations with reference to storage, and there are different regulations for management and storage and a different set for disposal, my question is if we did not provide for that—I thought you were worried that they might be able to put more than 15 percent in without complying with the disposal regs, am I correct or not?

Mr. HANCOCK. Let me try my answer this way, Senator.

I was concerned that DOE might attempt to do that. I was not in agreement that that would be a proper technical or legal means or method for the Department of Energy to take, but yes, you are correct, I was concerned about that.

I do not oppose provision in the bill as drafted, the first provision, Section 7(a)(1) related to compliance with the EPA standards for storage.

So I'm not saying that I oppose that particular provision. I think it's a good provision. I think the Department of Energy would have to comply with it whether that provision was there or not, but I certainly think it's an appropriate provision and I congratulate you for putting it in the bill.

Senator DOMENICI. Now, I just want to take two or three more minutes with Joe because I really have never been involved in an exchange with him, lawyer to lawyer, but I must say to you, as my good friend, if you really believe the ANIA agreement that you executed did not contemplate phasing in of the disposal, and that there was going to be a storage and experimental program up front, you used the word, I didn't, but I will tell you, you said you were hoodwinked, you were hoodwinked.

Because I don't believe anyone from the Department of Energy has ever been very reluctant to state that they understand until now, until this latest agreement, that there was no question that they could go perhaps as high as 25 percent in complying with storage regulations before they went to disposal permanent regulations.

I regret to tell you that if you didn't think that was part of your agreement and if you didn't think that's in this Waste Isolation Pilot Program, which various places refer to a retrieval, temporary storage, I mean, I don't know how it could have been more clear, and I'm not saying that's good or bad, but I really believe everybody thought that.

Now, having said that, let me say from my standpoint as a cosponsor of the bill with Senator Bingaman, we are hearing from those who would like us to change that bill, but I want to say from my standpoint we made every effort to use this vehicle of land transfer to cover every area we could that was in any way of concern with reference to health and safety.

There is no doubt in my mind that there are two national standards on environmental radiation protection for management and

disposal of spent nuclear fuel, and one is on management and storage and it is valid and in place.

There is another on disposal, and it is currently in a state of flux, and Joe, I'm sure you're aware of that. I'll give you the document. There are two sets of standards. And I want everyone to know, since somebody is saying we're trying to get rid of standards.

The Bingaman-Domenici Bill says they will comply with the standards, and if we have left out a word, technical word, we'll put it in. I understand there may be a technical word that we left out, but we intended, and you correct me if I'm wrong, Mr. Chairman, that on the 15 percent, that the management and storage standards of EPA be applicable to that up to 15 percent.

That is a standard, and we intended that they comply with it. That's what I thought we were doing.

I heard testimony this morning that maybe 15 percent is not needed, that maybe you need less to go through that research aspect.

You weren't here, Joe, but one of the experts said maybe it's four rooms plus some more, which may be more like seven or eight or nine and not 15.

But my intention was EPA standards, it's just that we have a difference of opinion on whether or not the storage and research up front, which is retrievable, should have the disposal standards affixed to it or whether it is adequate to protect public health to apply the management and storage standards of EPA.

I intended the latter and intended it would be effective in the bill that I co-sponsored, and I intended that when they got ready, if they did after that experimentation, that before they turned it into a disposal there would be EPA final standards and they would meet them.

I think the statute that we drew says they would have to certify in that regard.

So I hope you understand that that's what we—at least what I intended, and when it is said, we don't want this facility to become operational without standards, I didn't intend that. It was just some kind of a disagreement as to what storage and management is and what disposition of the final disposition of it is.

I want that up-front part to be as small as possible, principally for the logical reason discussed by Mr. Aly. I mean, you have too much of it, we're basing our credibility on its retrievability, and it can be removed, and clearly it ought to be as small, not as large, so that indeed there is credibility to its retrievability and removal in the event the experimentation doesn't work. I don't have any doubt that it isn't going to work.

My last observation is I think I'm confused about high-level experimentation, and I heard a giant scientist that usually comes and speaks in big fancy words from the Academy of Science, answer if we should do high-level experimentation, and he talked more like ordinary people talk.

He said you would be crazy not to. So, you know, I'm somewhat confused. Here is the National Academy of Science saying you'd be crazy not to do it, and those are almost his words.

I don't think he has an ax to grind. Nonetheless, Mr. Chairman, I will let anyone respond on that, except I would say to you that I

would like the DOE to furnish further specificity, with your concurrence, as to the nature and kinds of research on high-level waste, because I think we both have some concerns about the language we wrote and they ought to be able to give us more information on what they would be doing, with your permission.

Senator DOMENICI. Yes, I think we clearly do need more specificity about any high-level waste experiments they contemplate, and we also need more specificity about what is being done in this emergency response area, which seems to have been inadequately taken care of until now.

Joe, did you want to respond, or anybody else?

Mr. GOLDBERG. Mr. Chairman, if I could just respond very briefly to Senator Domenici's remarks.

I want to start this way. First of all, I very much respect the good faith of the committee, their best interests. I truly believe, and have believed from the first time I reviewed the bill, that what the drafters of the bill and the delegation want is the best safety, health and safety standards for New Mexicans, and I don't have any doubt about that.

If I stated, which I do not believe I did state, but if I stated that I was hoodwinked, I did not intend to.

Sometimes I am hoodwinked——

Senator BINGAMAN. Brainwashed, maybe that was it.

Mr. GOLDBERG. Sometimes I am hoodwinked, and I hope that most of the time I don't know it when I am. [Laughter.]

But I don't think I stated that I was hoodwinked, and I did not intend to leave that impression.

All of my dealings with the Department of Energy, I have found them to be straightforward and honorable, and we had very candid discussions.

I did not negotiate personally the vast majority of what went into the first amendment to the C&C agreement, but I did in fact have negotiations and discussions with Mr. Romatowski and his staff and I always found them to be candid and straightforward.

I don't intend to leave the impression I think that the Department of Energy hoodwinked me or anybody else.

Now I will state what my position is, however, with respect to what I understood and what I honestly believe, and still believe to this day, the Department of Energy understood at the time.

And that is, sure, there's a distinction, there's a factual distinction. There are semantic distinctions between storage and disposal.

But I don't think, up until the very, very recent, there ever was a time when the Department of Energy or the State of New Mexico believed there was an operative distinction, that is, that the regulations would operate differently, the EPA regulations with respect to the WIPP site.

I have some support for that, not only the quote from the FEIS but as late as recently, as May 1987, I think the Environmental Protection Agency and the Department of Energy had the same views, because there is an exchange of correspondence between the Environmental Protection Agency and the Department of Energy with respect to their Waste Isolation Pilot Plant compliance plan for these very regulations, both subparts, Senator Domenici, both the Subpart A and Subpart B.

And with respect to one of the comments from the Office of Radiation Programs to the Department of Energy, it says that, referring to the Department of Energy's compliance plan it says, this subpart applies to the WIPP beginning with the receipt of wastes at the WIPP and through its operational life.

Senator DOMENICI. What does it have reference to, this what?

Mr. GOLDBERG. This subpart applies to the WIPP, and I believe that they're referring to Subpart B in the—on the exchange of correspondence.

Now, I can understand that the committee wants that which is the most safe, and that's our view also, and I also agree, you say that you are at a loss with respect to the high-level waste experiments, I'm at a loss with that and I also don't pretend to have the expertise with respect to the regulatory matters.

But it is my view that the problem that I see with the current language, the language in Section 7, as it is proposed, is that if we—it mandates, it directs in legislation that in fact there will be a 15 percent set-aside, so to speak, that for 15 percent of the capacity the Subpart B requirements do not have to apply.

It causes me concern that we would mandate, that we would direct that. And for that reason, it seems to me that we're better off saying nothing about it than saying that.

Now, we may have a difference of opinion as to what will be better to protect the health and safety of New Mexico citizens, but I don't in any way think that the committee's bill was intended to relax the standards.

I think that there's a good faith difference of opinion as to what the effect of the bill is and what would be better.

I think for all purposes it would be better to direct the Department of Energy to say that all of the Subpart B standards will be met and will be satisfied as of the date that they start putting the waste and depositing it in WIPP.

Senator DOMENICI. Thank you, Mr. Chairman.

Senator BINGAMAN. Thank you very much.

Congressman Skeen.

Mr. SKEEN. Well, speaking of specificity, Dr. Goldberg, Joe, I want to say too that I appreciate you being here, and all of you, and it's very significant, the arguments have changed a great deal over the years.

I would like to know, and I know while you were Secretary of Health and Environment in the agreement that you signed, where does it specifically state in that agreement that the EPA requirements must be met before any waste is placed in WIPP, or not to give you—maybe I misunderstood you or maybe I'm understanding you correctly, that in your general agreement you said it was the clear intention, but you did not have it specifically stated in your agreement. Am I correct?

Mr. GOLDBERG. Mr. Chairman, Representative Skeen, I'll just read it to you, and I'll tell you what it says.

Mr. SKEEN. OK. Please.

Mr. GOLDBERG. In carrying out the stated mission—now, if the stated mission——

Mr. SKEEN. Where are you?

Mr. GOLDBERG. I'm on Subparagraph (e) of the first amendment to the C&C agreement.

Mr. SKEEN. OK.

Mr. GOLDBERG. All right. It says, the stated mission, it doesn't say anything about differentiation of mission, but whatever the mission is of WIPP, it says, in carrying out this stated mission DOE and WIPP will comply at a minimum with all applicable State, Federal and local standards, regulations and law, including any applicable regulations or standards promulgated by the Environmental Protection Agency, paren, EPA.

That's what it states. To me, that was reasonably clear and specific. That was my understanding. It didn't go on and say, this is how you demonstrate compliance or this to whom you demonstrate compliance or anything along those lines.

But that's what it stated and it was my understanding that what that meant was that the standards as they existed at the time and with the FEIS, if they evolved, then the engineering would develop, those would be met.

There is no doubt in my mind that the EPA standards require that they be met when WIPP became operational, not at a later time, not five years later or seven years later or 15 percent later or 25 percent later.

That was my understanding and I believe my understanding was correct at that time.

Mr. SKEEN. Well, if that's your understanding, I accept that as your true statement, but I would reinforce what Senators Domenici, Bingaman and Congressman Richardson and Congressman Lujan, our intention, when we did this, was to close any gap in this thing because that's why we've been playing with this thing so long, is to reinforce those standards.

Mr. GOLDBERG. I accept it as such.

Mr. SKEEN. And not being attorneys, some of us anyway, we love the kind of confusion that you folks whirl in your mind, but we do appreciate your response.

Mr. GOLDBERG. Mr. Chairman, I do accept it, I accept what the intention was, was to create the——

Mr. SKEEN. But you accept the intention.

Mr. GOLDBERG [continuing]. The stopgap on loopholes, absolutely.

Mr. SKEEN. Thank all of you for being here.

Senator BINGAMAN. Dr. Phillips.

Dr. PHILLIPS. I want to respond on the high-level thing.

Senator BINGAMAN. Go ahead and respond.

Dr. PHILLIPS. A reason I should have mentioned in opposition to high-level waste experiments is that retrievability is probably not possible. You have what Roger calls a wet site, I mean you have water seeping into the WIPP site. It's still happening, as far as I know.

And the salt beds will seal themselves under the pressure of the overlying rocks, and after a given number of years, at first it was thought to be 27, then 9, I have now heard 5 years, the rooms will have sealed themselves and they may even have water trapped in them from the overlying Rustler Formation.

I find it very difficult to understand how this waste is going to be retrieved. But even more crucial, and I throw this question back at

the committee, to where is the retrieval waste going to be brought. Will there be another repository six years from now already built and in operation and waiting to receive the waste to be retrieved from the WIPP site, or do we bring it back to the point of origin and are they going to want to receive it again?

Senator BINGAMAN. Thank you very much.

Congressman Richardson.

Mr. RICHARDSON. Thank you very much, Mr. Chairman.

I'd like to direct my questions to Joe Goldberg and perhaps Mr. Hancock, in an effort to try to see if we can resolve some of these issues, the transportation, the funding issue, the EPA issue and the high-level waste issue.

What I am going to propose to you doesn't mean that I necessary support it, but I'm just thinking out loud based on what you all have said in previous testimony.

Perhaps to Joe, since you're the spokesman of the group, and I know the limitations that you probably have doing that, on the EPA standards, let's say we had some language stating that DOE may not do anything during storage phase that jeopardizes compliance with disposal standards.

Mr. GOLDBERG. I'll have to think about it. It's something that I want to—I think what you're suggesting may be a way to proceed, but I think one would have to be terribly careful with respect to the language, to make sure that it doesn't represent a legislative suspension of the normal EPA regulatory standards.

That's one of the things, Congressman Richardson, that I'm concerned about, is that here you have the possibility of creating an exception in the WIPP site for what would normally apply to other situations.

Mr. RICHARDSON. I understand. What I am trying to convey here is if we can assure that this scheme or this mechanism, whatever is tantamount, of requiring compliance with EPA standards throughout, in essence we're achieving the same purpose.

But think about it and get back to us.

Mr. GOLDBERG. I will, if the Chair will allow, I will try and respond in writing.

Senator BINGAMAN. The Chair will allow you to think about it.

Mr. GOLDBERG. All right. [Laughter.]

Senator BINGAMAN. We'll take that under advisement. [Laughter.]

Mr. RICHARDSON. High-level waste experiments, again, Mr. Goldberg and Mr. Hancock, would some of your concerns on high-level waste experiments be allayed if we required the Department of Energy to submit its proposed experiments to the State Environment Evaluation Group for review, to assure that two conditions are met, one, that the waste will be retrievable and two, that all EPA standards will be met during and after these experiments? What if we did that?

Mr. GOLDBERG. One, I think, and I'd have to go back and check, but I think that what you suggest, in part at least, is already required by the Cooperation and Consultation Agreement.

In addition to that, though, I think that's heading in the direction which is one of our suggestions, instead of—in this area to where, to borrow the phrase of Senator Domenici, I mean it's so

confusing, we just don't know what's going on, rather than allowing it and saying that you're going to have a couple of years and have DOE come and report to you, why don't you suspend in your legislation and say that the high-level nuclear waste experiments are suspended unless DOE can come forward at a stated period of time and satisfy a stated entity.

It doesn't necessarily have to be the Congress, but you can have the suspension with an automatic termination of that suspension if the DOE can go and satisfy the National Academy of Science or some mechanism that would then say yes, we're satisfied that this is safe and that this is necessary and this meets a reasonable cost-benefit or risk-benefit calculus.

That type of legislation is not unknown to the Congress and it essentially puts the burden of the status quo on the DOE to alter the status quo, rather than saying, we're not sure how good this is and we'll require the DOE to make a report two years from now, but in the absence of a report you still can go forward.

Mr. RICHARDSON. Well, that's progress, and what I had suggested maybe is in line with that direction, but you say you think it is already part of the existing agreement.

Mr. GOLDBERG. I think requiring the DOE to make certain information known to the EEG, the Environmental Evaluation Group, and to make that information knowable in the areas that you described, retrievability and the types of experiments, is required already in the C&C agreement.

I think that the—my suggestion is to push that father along in that direction and say that no experimentation can go on until a certain finding is made.

Mr. RICHARDSON. OK. This is perhaps the most difficult question to ask you, because it involves making choices. It involves some of the testimony here relating to the funding and the needs of the state and the surrounding communities.

We had the doctor talking about emergency response and some of the medical priorities. We had Roxanne talk about the daily concerns relating to the site. We had others talk about transportation.

I guess my question, Joe, is assuming that we are going to have to make some hard choices on the funding, whether we get the $190 million or not remains to be seen, whether we get impact assistance or not remains to be seen, I have made my views known on the DOE even wanting to squeeze us on the royalty payments, which is a great concern.

If you had, priority-wise, for the state, for its citizens, if you had to choose in terms of which are the projects that are funded first, what would you say to me?

Would it be roads? Would it be emergency response? Would it be impact assistance? What would it be?

I know you are going to say, well, we need them all, and we all realize that and you know that I'm the first to advocate that, but put yourself in our shoes and put yourself in the shoes of budget cutters everywhere that are going to say you can have this this year and you can't have the rest of this this year but maybe you can have it in years to come.

Now, what would you say to that?

Mr. GOLDBERG. We need it all. [Laughter and applause.]

What I would say first, and it's not called for you by your question, which is if it's just budget cutting that's at issue, and I don't think it's just budget cutting that's at issue, I think I would look first at the Department of Energy high-level nuclear waste experiments and see whether that's an area in which the budget can be cut.

Then second, if I were forced, and I don't have all of the information and you should demand that we have all of the information in front of you, but I suspect that what it will show is that some of the road network construction should probably come first, partly because there's a lag, there's a lead time that has to be done.

I know from my experience, you can't appropriate money today and expect the road to be built today or tomorrow or next year or two years from now, studies have to be done, et cetera.

So I think some of that road network would have to come first. Then I would put the emergency response, partly because you're not—in the cosmos of $190 million for the road network, you're really not talking about a huge amount of money for the emergency response.

I suggest to you that if you asked the experts and you get their information, you will find that you can create a model of the health and emergency response network for these purposes for a very insignificant sum of money, and assure that it's perpetuated throughout the operative life of the transportation issues.

And so I would put that next, and then go back to the road network and the impact assistance after that. That's the way I would order it. I would look at the high-level nuclear waste experiments, I would then go and say, the very first thing is some of that road network, because we have to get that going, then I'd go to the emergency response and I'd go back to the road network.

Does that answer your question?

Mr. RICHARDSON. Thank you.

Senator BINGAMAN. Congressman Lujan.

Mr. LUJAN. Thank you very much, Mr. Chairman.

We are running late, so I will be very brief.

I'm very concerned about both what Dr. Phillips said and Roger Anderson about water at first seeping in there and then gushing—those are my own words, I'm not sure that it's quite to that extent, but I am concerned that that would be happening, and I think we have to look at that a lot deeper than we have because that kind of testimony did not come up this morning at all. One would be led to believe that it's dry as a bone in there and that everything is fine.

The second thing, while I will speak for myself, I am a proponent of continuing the WIPP disposal site, I want it only under safe conditions. Certainly no one would like to proceed if the circumstances are as you describe, or at least as I understood, have been not exaggerated.

I would not look at having no language in there for Subpart B because that's not available to us. If we had no language at all, there would be no restrictions as far as Subpart B is concerned. It's not available to us at this moment.

Secondly, if we do not have some wording in there, then it would seem to me like we are not mandating that EPA standards be met, because it's been my understanding, and the question was not com-

pletely cleared this morning, but it's been my understanding that if you want to put it in that sense it is only by the goodness of their heart that EPA is allowed to impose its will upon the Defense Department.

Generally, we did not ask anyone whether we were meeting compliance for Kirkland Air Force Base or Cannon or any of those, and generally when it comes to defense programs, we don't put the Defense Department under the thumb of any other agency.

So I think that if we followed that suggestion of not having any language at all, that we would be faced with that situation.

Dr. Anderson.

Dr. ANDERSON. Yes, Congressman, I'm glad you gave me a chance to say something else before this is over.

This morning I think the testimony suggested that really there were no problems in assurance, and I'm sure that the bill wouldn't have been drafted as it was if there was any concern that ultimately it might not have been complied with.

However, I think the question of the water and the Rustler Aquifer, I think these things just illustrate that there indeed are questions that are outstanding that need to be examined more fully.

One of these, especially, as you've hit upon here, is the idea of having a wet site versus a dry site. And what that does is that opens up a whole bag of new scenarios, because you're going to have a mine that is going to have in it a slurry of waste and water, and in effect, the sale—like years ago, salt was proposed and the National Academy liked salt because it was self-sealing and it was dry.

Well, these two properties don't really work at WIPP. In fact, it's a disadvantage, like the salt is not dry and the self-sealing aspect, what it does is it encapsulates the slurry in that chamber, applies pressure to it, and that pressure itself becomes a driving force.

And this scenario is nowhere in the impact statement, the final impact statement.

Mr. LUJAN. Where is that water? I've been down there and I haven't seen any water.

Dr. ANDERSON. Water is today running into the mine and there is a ring around the inside that you don't see, around the inside of the shaft, and it's being collected in a ring and carried down into the mine, and today it's used to water the mine so it stays nice and clear and not dusty down there.

The rate of flow is one and a half gallons a minute, and when the original site was designed, the flow rate in the Rustler itself was described as teacups per day.

Well, there's quite a difference, and so we're faced now with looking at scenarios and engineering changes and engineering designs that were not anticipated at the beginning.

And that's why I think that you need caution here, like to go ahead and just assume, I think you at least need to have another hearing to bring all this out and to listen to all the information, and I would include people on that hearing other than the National Academy, because I think there's a story elsewhere that you might not get with only that source.

Mr. LUJAN. Where did you say they used that water, they use it inside the mine for what?

Dr. ANDERSON. It's used for wetting down the mine so it's not dusty. And without ventilation, the rate is about maybe two gallons per minute, and that's enough to fill the repository in less than a hundred years probably.

And it also raises the question in the Rustler Aquifer of getting a seal. In other words, you have to pour that shaft with a concrete mixture that's saturated with brine or it won't work.

Mr. LUJAN. Well, that's the whole idea to salt, so that it will collapse and seal it.

Dr. ANDERSON. Right.

Mr. LUJAN. So why would you put a cement structure in there, then it couldn't collapse the seal.

Dr. ANDERSON. Well, you're going to pour the shaft with concrete, but the walls of the concrete have to be—I mean, the concrete has to be poured with saturated brine mixed with saturated brine, and typically that concrete is not so stable.

And if it's not saturated, you leave a gap. And if you leave a gap, the water from the Rustler can go down in and make a wet line.

So there are a number of us, like we've set up an independent panel of physicists, fluid dynamics, statisticians, there are nine of us now that—in fact, the white paper was in a way an interesting thing because it kind of galvanized some scientists that I think are really top class scientists within New Mexico and we're looking at the wet site problems right now, and I think there's plenty of room for additional information about this.

Mr. LUJAN. Thank you.

Dr. PHILLIPS. I would like a brief comment.

Senator BINGAMAN. Yes, why don't you go ahead, we are over time, I would like to conclude the hearing here, unless there are other questions, but go ahead with your final statement.

Dr. PHILLIPS. Yes. Another aspect of your question, Congressman Lujan, I was on a guided tour of the WIPP site once and the specific thing I wanted to see was either water coming down the ventilation shaft or how they were preventing this from happening, and I was prohibited from going down there.

They brought us 1,450 feet northward to look at the underground cafeteria, while telling us we did not have time to go 400 feet southward and look at the ventilation shaft.

So I submit that it is possible that this is why you don't see that on current tours of the WIPP site.

Senator BINGAMAN. Did anybody else have a question?

Senator DOMENICI. No, Senator.

Senator BINGAMAN. Well, let me just conclude the hearing.

I want to thank all of these witnesses and all the witnesses today. Again thank Mayor Forrest and the City of Carlsbad for allowing us to be here.

We got excellent testimony. We have a great deal of written testimony we have not had a chance to look at, and again let me remind folks that if there are additional statements for the record that people have today, please bring them to the front here.

If there are others that you develop in the next 30 days, please mail them to our office.

Thank you very much, and we conclude the hearing.

[Whereupon, at 4:50 p.m. the hearing was adjourned.]

[COMMITTEE NOTE.—Due to the voluminous nature of materials submitted for the record all additional statements and letters have been retained in subcommittee files.]

APPENDIX

RESPONSES TO ADDITIONAL QUESTIONS

Department of Energy
Washington, DC 20585

January 19, 1988

Honorable Dale Bumpers
Chairman, Subcommittee on Public
Lands, National Parks and Forests
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

On October 12, 1987, Troy E. Wade, Acting Assistant Secretary for Defense Programs appeared before your subcommittee to discuss S. 1272, the Waste Isolation Pilot Plant Land Withdrawal Act of 1987.

Following the hearing, you submitted written questions for our response to supplement the record. Enclosed are the answers to those questions, which also have been sent directly to the committee staff.

If you have any questions, please have your staff call Michael Gilmore on 586-4277. He will be happy to assist.

Sincerely,

Robert G. Rabben
Assistant General Counsel
for Legislation

Enclosures

QUESTION FROM CHAIRMAN BUMPERS

1. Regarding Section 6

   a. What is DOE's current evaluation of the benefits and risks of proposed high-level waste experiments?

   Answer

   By way of background, the WIPP mission, as defined P.L. 96-164, is to provide a "...research and development facility to demonstrate the safe disposal of radioactive wastes resulting from defense activities and programs of the United States exempted from regulation by the Nuclear Regulatory Commission."

   To comply with this direction, DOE planned an experimental program related to high-level waste (HLW) disposal that included laboratory tests, tests in the Waste Isolation Pilot Plant (WIPP) facility using simulated waste, and eventually experiments using canisters of actual vitrified defense waste in WIPP.

   With the passage of the Nuclear Waste Policy Act of 1982 (NWPA) and the determination in 1985 that defense HLW would be disposed of in the civilian repository, the focus of responsibility in the DOE for the disposal of defense HLW changed. The Office of Civilian Radioactive Waste Management (OCRWM) was established to develop one or more repositories for the disposal of spent nuclear fuel and HLW as authorized by the NWPA.

   The OCRWM intends to use simulated heater tests during site characterization activities for the HLW repository. The information developed from these tests is considered sufficient for licensing of

the repository. For this reason, the proposed tests for the WIPP site using actual HLW are not warranted for the Civilian Radioactive Waste Management Program site characterization activities.

The focus of our current efforts is on opening WIPP in October of 1988 and the near-term transuranic R&D program to support operational and environmental compliance activities. Future support of validation of the WIPP performance assessment models related to TRU onsite disposal will be considered using specially prepared sources, some of which are highly radioactive. These sources would be utilized in a manner permitting complete removal of all radioactive test materials from the site.

In addition, as S.1272 states, prior to conducting any experiments with actual HLW at WIPP, the DOE will publish a report addressing the need, cost, benefits, risks, safe retrieval mechanisms, and the plans for the design and compliance with applicable regulations. As provided in the Bill, DOE will bring no HLW to WIPP unless and until the benefits from such experimentation significantly outweigh the risks. When this report is completed, the kind of detailed information required to respond to your questions will be available.

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1. Regarding Section 6

   b. How much money would be saved if no high-level waste experiments were done at WIPP?

      Answer

      Since detailed test plans and costs have not been developed, the savings which would accrue from deletions of the radioactive HLW experiments from the overall cost of tests needed to validate remote handled TRU performance in the WIPP salt environment cannot be defined at present.

1. Regarding Section 6

   c. Since neither the Nuclear Waste Policy Act nor NRC regulations require pre-licensing waste experiments, how would the proposed HLW experiments at WIPP benefit the DOE high-level waste repository program?

   Answer

   The DOE HLW repository program does not require tests with HLW for site characterization or licensing. The technical base developed by WIPP will, however, be generally applicable to HLW repositories in such areas as instrumentation techniques and data acquisition methodology.

1. Regarding Section 6

   d. What is DOE's current timetable for initiation and completion of HLW experiments at WIPP?

      Answer

      DOE will address the benefits and risks during the next two years and, based on the report, will determine the desirability and schedule for HLW tests.

2. Regarding Section 7

   a. If subsection (a)(1) is not included in this land withdrawal legislation, would DOE nonetheless be required to fully comply with 40 CFR 191, Part A?

      Answer

      Yes, the DOE has agreed to the provisions of the Second Modification, dated August 4, 1987, to the Agreement for Consultation and Cooperation between DOE and the State of New Mexico (C&C Agreement). The C&C Agreement states in part "The Final Safety Analysis Report will document DOE's ability to comply with the provisions of Subpart A of the Environmental Standards of the Environmental Protection Agency for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Wastes (40 CFR 191, Subpart A). Upon initial receipt of radioactive waste at the WIPP, and thereafter, the DOE will comply in all respects with the said Subpart A in effect at the time."

2. Regarding Section 7

   b. If subsection (a)(2) is not included in this land withdrawal legislation, would DOE nonetheless be required to fully comply with 40 CFR 191, Part B?

   Answer

   If subsection (a)(2) is not included in the legislation, the DOE would still be subject to the requirements of 40 CFR 191, Subpart B at the time a decision was made to change to a disposal mode. To again quote the Second Modification to the C&C Agreement, "the Secretary of Energy shall demonstrate that the Waste Isolation Pilot Plant meets the applicable environmental standards for the disposal of radioactive waste established in Subpart B of such Environmental Protection Agency Standards (40 CFR 191, Subpart B), including the Assurance Requirements under such Subpart B, in effect at that time."

2. Regarding Section 7

   c. What is DOE's current timeframe for demonstrating compliance with those EPA standards?

   Answer

   Under the C&C Agreement, DOE is committed to demonstrate compliance with 40 CFR 191 Subpart A commencing with the first receipt of waste, currently scheduled for October 1988. Compliance with Subpart B will be demonstrated prior to a decision to commence operating in a disposal mode. This is presently projected for approximately October 1993.

3. Are there any site-specific benefits that will accrue to the disposal of TRU wastes at WIPP as a direct result of the high-level waste experimental program activities planned at WIPP?

Answer

Benefits specific for TRU wastes in WIPP are:

- o Radioactive source experiments will provide an upper bound to the short-term phenomena expected from remote-handled TRU emplacements.

- o Radioactive source experiments which utilize an "aged waste" formulation will address the processes involving long-term, short-distance migration of radioisotopes typical of both contact-handled and remote-handled TRU.

- o Such tests at WIPP will provide a final validation of laboratory and simulated experiments conducted earlier for WIPP to provide data for performance assessment modeling.

4. Please summarize your activities to date and the activities you have planned with respect to emergency response training of local communities prior to startup of WIPP.

Answer

Since the beginning of this year, Albuquerque Operations Office personnel have regularly discussed this matter with Mary Ann Walz and other personnel from the State Police's emergency response team. During the summer, these discussions were expanded to include Neal Scheidel from the newly formed Department of Public Safety, the State Fire Marshall, and the Radiation Protection Bureau.

As a result of this continuing dialogue, the DOE and the State have reached agreement in principle on three levels of training which DOE will provide to State personnel involved in emergency response activities. As Mr. Scheidel indicated in his testimony at the hearing, this training will include a 1-day course given in 12 locations along the WIPP routes for first responders, including those fire, emergency management, and law enforcement personnel. The second level of training is a 3-day course for personnel like the State police and fire chiefs who would be in command and control at the scene of an accident. This training would be given in five locations along the routes. Finally, a 1-day course would be provided to local and State safety, health, and radiological personnel who will be assessing and evaluating any potential environmental and human impacts of an incident and monitoring the cleanup efforts.

On November 19 and 20, key State personnel previewed the general content of these courses in order to make suggestions and changes in the content to assure that the courses meet the State's needs. The actual training

courses will commence in about May 1988 and be completed prior to any waste destined for WIPP being transported into the State. All of this training will be provided by DOE as in-kind assistance to the State and local personnel.

In addition to the training, our discussions with the State on emergency response and transportation monitoring have included the State's needs in the area of equipment, as well as the additional items listed in our Supplemental Stipulated Agreement such as costs associated with public information and radiation monitoring personnel. As Mr. Scheidel indicated in his testimony at the hearing, these discussions are not complete. It was appropriate to discuss and agree on training requirements first because of the longer planning time associated with the training.

We have assured the State that DOE will provide at least the level of funding for these other needs as outlined in the Supplemental Stipulated Agreement. When our discussions are completed, we expect that the total in-kind and monetary assistance to the State in the areas of emergency response and transportation assistance will far exceed those contained in the Agreement.

In summary, we believe that our discussions with the State on the subject of emergency response have been productive, and when completed, will yield a result which fully satisfies our commitments and responsibilities to the State in this area. The State has agreed to communicate the status of our discussions to emergency response personnel in the local communities along the WIPP routes so that they are aware that their needs are being addressed.

5. Please specify the exact nature and details of the high-level waste experiments planned at WIPP.

Answer

The definitive plans for HLW tests at WIPP have not yet been developed. If these tests were to proceed, the experimental data would be developed using specially formulated radiation sources. Whether or not to use Defense HLW forms in these experiments must await the more detailed benefit/risk report required by S. 1272.

6. Please review and comment on Dr. Phillip's oral testimony from Panel IV.

Answer

In testifying October 12, 1987, R. H. Phillips made several claims considering the hydrology of the WIPP site. These claims and a response to each are as follows:

Claim 1: That WIPP is situated in a karst land, in which ground water flow occurs through discrete underground channels, open conduits, and caverns, none of which have been penetrated by any of the WIPP site hydrologic test wells. Therefore, ground water monitoring after emplacement of waste is meaningless, since by definition, any contaminated ground waters would not flow through any of the monitoring wells (paraphrasing p. 245, lines 2 through 13).

Response: The type of cavernous permeability that Phillips suggests completely controls the regional hydrology of the Rustler Formation does not occur at the WIPP site proper. The Rustler dolomites, while they may be fractured in response to local deformation, are not involved in carbonate dissolution. The gypsum/anhydrites of the Rustler, which are locally dissolved in evaporite karst, are too deeply buried at the WIPP site proper to support open cavities. Approximately 3 miles from WIPP, east of Nash Draw, such cavities are known only at WIPP-33, where the depth of burial is approximately 450 feet. Since fractured portions of the Culebra are reasonably sampled by existing wells, use of these wells in long-term monitoring should be reliable and representative.

Claim 2: That the Rustler Formation above the WIPP site is known to be cavernous, and could flush water to Malaga Bend very rapidly following major rainstorms (paraphrasing p. 249, lines 17 through 21).

Response: As stated in response #1, the Rustler above the WIPP site proper is not cavernous. Gypsiferous portions of the Rustler are locally cavernous within and near Nash Draw, approximately 3 miles from WIPP. However, the hydrologic system within Nash Draw appears to be largely independent of the hydrologic system at the WIPP site itself.

Claim 3: That the caliche layer at the WIPP site is "pock-marked" with holes, and in other places has very large sinkholes. Therefore, rainwater is capable of reaching the Rustler Formation, which, because of its cavernous nature could very rapidly transport contaminated water to Laguna Grande de la Sal, and hence to the Pecos River (paraphrasing p. 250, lines 2 through 7).

Response: The occurrence of holes or "flower pots" within the Mescalero Caliche is normal. Examination of many surface depressions east of hydrology well WIPP-33, approximately 3 miles from WIPP, indicates that the WIPP-33 geologic structure is unique in both its breaching of the Mescalero Caliche and its size. Additionally, detailed head relationships within the Rustler Formation indicate that, at least at the measured locations, vertical fluid flow within the Rustler Formation involves upward fluid flow from the Magenta Dolomite. Therefore, surficial recharge to the Rustler Dolomites is physically unrealistic at these locations.

Claim 4: That Castile brines are known to be present beneath the WIPP facility and would, therefore, provide a driving force in the event of a breach (paraphrasing p. 250, lines 8 through 15).

Response: Safety analyses conducted by both DOE and the New Mexico Environmental Evaluation Group incorporate the postulated brine occurrences into human-intrusion breach scenarios. Health effects of the hypothesized breach were benign. Future performance assessment will also exercise scenarios assuming the presence of Castile brines. Note that no natural geologic or hydrologic processes will bring the Castile fluids into contact with the WIPP waste anywhere near the 10,000-year time frame of regulatory interest.

Claim 5: That water from the Rustler Formation leaks into the shafts at the WIPP site flooding the tunnels of the WIPP site at the emplacement level at any time the ventilation fans were turned off. Subsequent efforts to seal the shafts have failed (paraphrasing p. 245, lines 14 through 24).

Response: The shaft liners at WIPP are emplaced to provide water control and rock stability during the operational period only. These liners, which only extend from the surface down to the salt, provide adequate water control for this purpose but in no way represent the final sealing of the shaft. Shaft sealing will involve specially engineered seals in the shaft which are tailored to the surrounding rock. The entire shaft will be filled, and portions of the existing liner will be removed to

allow aquifer seals to be emplaced. The present liners have only recently been grouted to further limit seepage at the "cold joints" in the concrete of the liners. This has virtually eliminated water inflow in the shafts.

Claim 6: That an independent agency, such as USGS, should certify the ability to seal shafts rather than the Department of Energy (paraphrasing p. 246, lines 6 through 9).

Response: The USGS has recognized competence in geology but no expertise in long-term seal systems. The WIPP seal design will be reviewed by independent experts, by the State EEG and by the National Academy of Science review panel. This overview and the experimental approach used in seal concept design will assure that the highest confidence can be placed in the WIPP sealing systems.

Claim 7: That it is critical that the ability to seal the shafts be demonstrated before any waste is emplaced (paraphrasing p. 246, lines 4 and 5).

Response: The development, conduct and analysis of WIPP seal tests is a lengthy program requiring many years, in part because one must wait for salt creep to reconsolidate the salt components of the seals. Because full-scale tests are expensive and require even longer times to complete, the final design is being developed by conducting extensive laboratory tests, small-scale in situ

experiments and numerical modeling which incorporates information from these tests. The best concept will then be tested at a more realistic scale. The first several years of WIPP operation, during the demonstration period, will be used to complete these studies, an approach which is consistent with the R&D role which WIPP will fulfill in that 5-year span. Gas generation data from the TRU disposal rooms, to be acquired in the first years of operation, during the demonstration period, must also be considered in the final design of the seal system. All laboratory and small-scale tests to date indicate attainment of an adequate seal design for WIPP should be achieved on schedule to support performance assessment and determination of compliance with the EPA standard. For all these reasons, it is not practical or necessary to determine and accept a final seal design before receipt of TRU waste at WIPP.

A. HIGH-LEVEL WASTE (HLW) EXPERIMENTS AT WIPP

1. How much will the high-level waste experiments cost? Please detail the projected costs of shipping containers, overpacks, and waste form, including the costs at the Defense Waste Processing Facility attributable to WIPP.

Answer

Since detailed test plans and costs have not been developed, the savings which would accrue from deletions of the radioactive HLW experiments from the overall cost of tests needed to validate remote handled TRU performance in the WIPP salt environment cannot be defined at present.

A. HIGH-LEVEL WASTE (HLW) EXPERIMENTS AT WIPP

2. In 1984, the DOE Inspector General report (DOE/IG-0207) recommended eliminating the high-level waste experiments. Has the IG issued any further reports on these experiments?

Answer

The IG has not issued any further reports on these experiments.

A. HIGH-LEVEL WASTE (HLW) EXPERIMENTS AT WIPP

3. What is DOE's current evaluation of the benefits and risks of the proposed high-level waste experiments?

Answer

As indicated in the response to A. 1., it is premature to define the detailed benefits and risks of radioactive HLW experiments since that will be the specific subject of the report required by S.1272.

A. HIGH-LEVEL WASTE (HLW) EXPERIMENTS AT WIPP

4. What is DOE's current timetable for initiation of the HLW experiments?

Answer

DOE has not approved any radioactive HLW experiments at WIPP. It is unlikely that such experiments could commence before 1992.

A. HIGH-LEVEL WASTE (HLW) EXPERIMENTS AT WIPP

5. How many years later would those experiments be completed and when would the wastes be retrieved?

Answer

Detailed test plans for these experiments have not been developed.

A. HIGH-LEVEL WASTE (HLW) EXPERIMENTS AT WIPP

6. Does DOE still intend to experiment with "bare" wastes "spiked with Cesium-137", as mentioned in the WIPP FEIS? If so, what technical analyses have been published about the characteristics of this waste? What technical studies have been done on the costs and health effects to workers of retrieving "bare" wastes?

Answer

No radioactive waste tests have been approved by DOE for WIPP. Such experiments would be planned so that all associated radioactivity would be removed from the WIPP. Other factors would be detailed in the report requested by S.1272 as discussed in response A.1.

A. HIGH-LEVEL WASTE (HLW) EXPERIMENTS AT WIPP

7. Where would retrieved high-level wastes be taken?

Answer

Detailed planning for experiments would identify where any radioactive wastes would be taken after the tests were completed.

A. HIGH-LEVEL WASTE (HLW) EXPERIMENTS AT WIPP

8. Does DOE disagree with the testimony of Dr. Roger Anderson that these experiments would be of no value at Nevada or Washington waste sites? If DOE does disagree, please provide an analysis of the benefits of the experiments at those two sites.

Answer

The data and models developed from the experiments are not required for the licensing of a civilian repository if it were located at the Nevada or Washington locations. However, the experience gained in instrumentation techniques and data acquisition procedures from the tests would provide a limited technology base for those programs.

A. HIGH-LEVEL WASTE (HLW) EXPERIMENTS AT WIPP

9. Does DOE disagree with the testimony of Dr. Roger Anderson that these experiments would be of limited value at the Palo Duro Basin site in Texas? Please describe the value of such experiments to the Texas site.

Answer

DOE considers that these experiments would be of limited value at the Palo Duro Basin site in Texas. Information from the generic thermal/structural and source term models developed from the WIPP experiments should be transferable to another salt repository site. As indicated above, the tests are not required for licensing of a civilian repository at a salt site.

B. EPA STANDARDS

1. Isn't it true that to comply with the EPA standards, which are design standards, they must be applied before waste is emplaced? For NRC-licensed repositories, doesn't DOE have to show full compliance with EPA standards before it can emplace any wastes?

Answer

WIPP is a research and development facility and will be operated as a management and storage facility during its 5-year demonstration period. It is unlike the high-level waste disposal facilities which will be licensed by the Nuclear Regulatory Commission and which are disposal facilities from their conception. A decision on whether WIPP should become a permanent TRU disposal facility will not be made until after the demonstration phase. TRU waste emplaced at WIPP during this 5-year period will be readily retrievable. Because WIPP is only a management and storage facility under the EPA standards during its first 5-year period, WIPP can emplace TRU waste prior to demonstrating compliance with Subpart B of the EPA standards.

B. EPA STANDARDS

2. Why has DOE been able to do preliminary performance assessments for the proposed high-level waste sites, but cannot do such assessments at WIPP?

Answer

Performance assessment activities at WIPP are related only to TRU waste since that is the only waste considered for disposal at WIPP. Performance assessments can be done at any time. However, these assessments will only be as reliable as the information and data sets used to do the calculations. The initial WIPP performance assessments were done as "bounding" calculations and are reported in the WIPP Environmental Impact Statement. A confident, reliable performance assessment needs a statistically reliable set of input parameters - not bounds - to calculate compliance with the standards. Results of gas generation from waste in-situ at WIPP are required as one of the inputs for performance assessment because TRU waste forms pose an uncertainty in the source term. It is this uncertainty in source term that requires in-situ experiments at WIPP with statistically significant quantities of TRU waste.

B. EPA STANDARDS

3. Dr. Wendell Weart testified that in order to do the performance assessments for WIPP, gas generating wastes must be emplaced. What kind of tests will be done on gas-generating wastes, and why can't such tests be done where the wastes are stored now or in laboratory experiments?

Answer

TRU waste-filled rooms in the first panel will be monitored for gas generation and consumption during the 5-year demonstration period. The generation and consumption rates of selected gases including, but not limited to, hydrogen, carbon dioxide, oxygen, and methane, will be determined so that operational and long-term performance concerns can be addressed with confidence. This gas monitoring program will allow in-situ confirmation of results from previous smaller-scale experimental gas generation studies, and will provide increased confidence in the predicted performance of the disposal system.

TRU waste proposed to be stored at the WIPP during the demonstration period will come from 10 generating sites across the nation, each of which have varied waste streams. It would not be practical to conduct experiments to simulate at each site the behavior of a room filled with over 6000 drums of waste of highly variable composition, age, and properties. Even if this experiment were to be performed in a laboratory, there would still be uncertainties introduced in extrapolating the laboratory results to the actual underground environment. The most appropriate technique for obtaining accurate gas generation and consumption data on a large and statistically varied population of TRU waste is to perform monitoring of full-scale rooms in the actual salt storage environment.

B. EPA STANDARDS

4. Would such tests at WIPP total backfill and closure of rooms? If so, how much would it cost and what health impacts to workers would be involved in retrieving such waste tests?

Answer

The TRU waste tests to be conducted during the 5-year demonstration period will be done on waste stored in the first panel without backfill. The intent of not backfilling during this demonstration period is to assure that the waste drums are easily retrievable. If backfill were used during the 5-year demonstration period, a significant number of drums would be breached. The approach being taken at WIPP minimizes costs and safety and health impacts due to retrieval of breached waste drums. The lack of backfill will not adversely impact major tests (gas generation, brine inflow and structural response) during the demonstration period. Simulated, nonradioactive TRU waste tests involving interaction between backfill, room closure, and waste container breaching are currently being conducted, or planned, as part of the WIPP's TRU R&D program. The simulated tests allow the necessary data for performance assessment to be collected without health impacts to the workers from radiation.

B. EPA STANDARDS

5. What is the basis for needing 6-9% of the waste emplaced in order to do the assessment for gas generating wastes?

Answer

The amount of waste to be emplaced for gas generation studies during the demonstration period represents about 6-8 percent of the total waste inventory. This represents four rooms of waste, a volume which will provide a statistically valid sample population. The information obtained from monitoring this amount of TRU waste during the demonstration period can be extrapolated to the total repository with much greater confidence. All of the TRU waste expected to arrive for the gas generation tests will be divided into one of four categories. The four categories are: high alpha activity, newly generated combustible, newly generated non-combustible, and old (6 months or greater) waste. The behavior of the WIPP facility as a whole for TRU waste can then be accurately predicted by weighting the behavior of these sub-populations by the expected percentages of the waste types.

B. EPA STANDARDS

6. Isn't it possible that compliance with EPA regulations might require engineered barriers and other major changes in design and operation, at great cost and some risks to workers?

Answer

The EPA standard does require, through an assurance requirement, that multiple barriers (which shall be comprised of both natural and engineered barriers) be utilized in facility isolation. The WIPP has both natural and engineered barriers as integral elements of its isolation design. TRU studies during the 5-year demonstration period could indicate that design changes would enhance WIPP's performance. This is one of the major advantages of emplacing TRU waste in a retrievable fashion for the first 5 years so that no desirable options are foreclosed. The precautions taken to assure ready retrievability will allow future options to be considered with a minimum of cost and worker risk since the TRU waste packages will not be breached.

B. EPA STANDARDS

7. Does DOE oppose delaying the opening of WIPP until new EPA standards are promulgated and DOE can demonstrate its compliance with those standards? If DOE does oppose such a delay, explain why.

Answer

Delay in the opening of WIPP until the new Subpart B standards are promulgated is unnecessary and undesirable for the following reasons:

- o During the 5-year demonstration period, the facility is not governed by the portion of the standard which was remanded (Part B).

- o Information to be obtained during the demonstration period is required for performance assessment (as explained in response to B-2) regardless of the final form of the standard.

- o Delay of TRU waste receipt would increase program costs for WIPP and would still leave uncertainties in the performance assessment results because data from in-situ TRU waste tests would not be available.

- o The ready retrievability of TRU waste during the demonstration period will permit acquisition of needed data without incurring undue risk to workers or the general population.

- o It is important to the nation that the ability to safely ship TRU waste to WIPP and safely handle and store it in a deep geologic environment be demonstrated at the earliest possible time in order that the general public should recognize that a solution to the Defense TRU waste problem is possible.

- TRU waste is continuing to accumulate at defense waste generator sites. This newly produced TRU waste will be sent directly to WIPP when it starts to receive waste in 1988. If this waste is not permitted in WIPP until a determination of compliance in 1993, DOE would be required to ship a significant fraction of its TRU waste twice - once to a storage facility and then later to WIPP - with a consequent increase in costs and in handling and in transportation risk and exposure. Additionally, some generators would need to provide costly new temporary storage capacity to accommodate newly produced TRU waste if it is not sent to WIPP during the demonstration period. Shipping TRU waste directly to WIPP does not increase health and safety risks to the workers or the general public. Yet, it has the potential to significantly reduce the health and safety risks over the long term.

C. TRANSPORTATION

1. Does DOE agree that it will only ship waste to WIPP in containers certified by NRC? If not, explain why not.

Answer

Yes, all waste shipped to WIPP will be shipped in NRC certified containers.

C. TRANSPORTATION

2. Will all of the contact-handled TRU waste be shipped only in TRUPACT containers certified by NRC?

Answer

It is DOE's intent that all waste shipped to WIPP will be shipped in NRC certified containers meeting all applicable regulations.

C. TRANSPORTATION

3. When do you expect the TRUPACT to be certified by NRC?

Answer

We anticipate TRUPACT-II certification to occur prior to the WIPP opening date.

C. TRANSPORTATION

4. When will the design for the remote-handled containers be completed? What is the expected date to receive NRC certification for those containers?

Answer

The RH Road Cask final design is scheduled to be completed October 1988, with NRC certification anticipated in early 1989.

C. TRANSPORTATION

5. When will the design for the high-level waste containers be completed? What is the expected date to receive NRC certification for those containers?

Answer

The DHLW cask design will be finalized in 1989 with NRC certification anticipated late in 1989 or early 1990.

C. TRANSPORTATION

6. Does DOE oppose including an authorization of $190 million for highway and bypass construction in the land withdrawal bill? If so, explain why.

Answer

The Department would prefer to have the land withdrawal bill limited to the language necessary to withdraw the land. However, the Department does not oppose including such an authorization in the bill. We recommend, and additional language to this effect may be appropriate, that the Department of Transportation (DOT) should be responsible for funding such roads and any appropriation should be included in the DOT budget.

D. OTHER ISSUES

1. Does DOE oppose changing Section 4(f) of S. 1272 to require funding the State of New Mexico to conduct an economic impact plan? If so, explain why.

Answer

The Department does not oppose changing Section 4(f) of S. 1272 to require the Department to fund an economic impact plan. However, it is important that the findings and recommendations that will require Federal funds be mutually agreed upon by both the State and DOE.

D. OTHER ISSUES

2. Does DOE disagree with the testimony of Dr. Jerry Baggs that the agency has not yet complied with the requirements of the Supplemental Stipulated Agreement that DOE would provide Federal funding for emergency response preparedness no later than 1 year prior to any waste being brought in the State? If you do not disagree with the testimony, provide details of how DOE intends to comply with the requirement. If you do disagree with the testimony, explain how DOE has complied.

Answer

The Supplemental Stipulated Agreement (SSA), entered into in December 1982, contains a list of items which the State submitted to DOE as its best estimate of the direct or in-kind assistance the State might need with respect to emergency response. The Agreement further provides that if the State has been unable to secure the assistance described in its list from other sources, the DOE will provide funding to satisfy the remaining balance no later than 1 year prior to the shipment of any waste.

The DOE has complied with the Agreement by offering to provide the State the training described in the response to question 4 plus the dollar amount (adjusted for inflation) provided in the SSA for emergency response. The State is still in the process of assessing its needs to ascertain whether the amount provided for in the SSA adequately covers its needs. As soon as discussions regarding that issue are completed, the DOE and the State will enter a cooperative agreement regarding emergency response preparedness.

We have reached agreement with respect to the training for emergency preparedness that will be provided to State and local officials by the DOE. DOE has assured the State that in addition to providing the

training on an in-kind assistance basis, we intend to honor our commitment to provide at least the amount of assistance stated in the SSA.

Planning for the training is ongoing and does not depend on the signing of a cooperative agreement. In fact, on November 19 State and DOE personnel met and held a preview of the training course. The training will commence in May 1988 and be completed before the receipt of waste.